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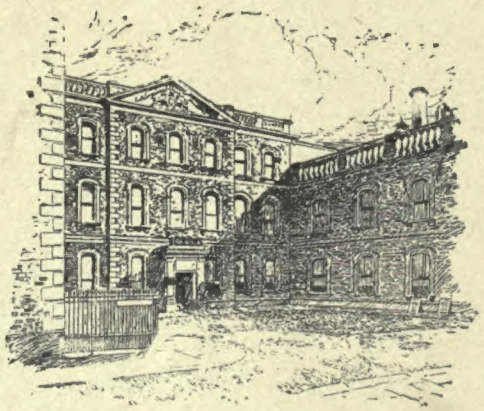
VOL. XVII.



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CHAPTER CCXLVIII.

THE ARAB UPRISING.

HEDJAZ OPERATIONS JUNE 1916–APRIL 1918—CAUSES OF THE ARAB REVOLT—OTTOMAN RULE IN WESTERN ARABIA—YOUNG TURKS' TURANIAN POLICY—POSITION OF THE GRAND SHERIF OF MECCA—HIS ADDRESS TO THE MOSLEM WORLD—INDEPENDENCE PROCLAIMED—TURKS BOMBARD THE GREAT MOSQUE—MECCA, JIDDAH AND TAIF CAPTURED—OPERATIONS AGAINST MEDINA BEGUN —ALLIES' SUPPORT OF ARAB MOVEMENT—THE SHERIF BECOMES KING OF THE HEDJAZ—PILGRIMAGES TO MECCA RESUMED—ARAB FORCES REORGANIZED—THE EMIR FAISAL'S ADVANCE TO SINAI-SYRIAN BORDER—TURK DEFEAT AT MA'AN—ARABS AND PALESTINE—FAISAL'S DEAD SEA CAMPAIGN —HELP OF BRITISH AIRMEN—EL KERAK CAPTURED—ARMENIANS RESCUED BY THE ARABS.

IN June, 1916, the Emir Husein, Grand Sherif of Mecca, proclaimed Arab independence of Turkey and made himself master of Mecca and its seaport, Jiddah. In September Taif, the Turkish headquarters, and with it Ghaleb Pasha, the vali and commander-in-chief, surrendered, and by the end of the year Ottoman authority in the Hedjaz had been restricted to Medina and the strip of territory bordering the railway leading from Medina to Eastern Palestine and Damascus. The Grand Sherif, who in November, 1916, took the title of King of the Hedjaz, early in 1917 sent an army northward, where it gained a series of notable successes between Akaba, at the head of the eastern gulf of the Red Sea, and Ma'an, on the southern border of Syria, and the chief place on the Hedjaz railway between Medina and Damascus. From the time of their appearance on the frontiers of Sinai and Syria the Meccan forces constituted a friendly army on the right of the Egyptian Expeditionary Force, while the British, from August 1917 onward, gave the Arabs help by air raids on Ma'an, which place remained in Turkish possession. Leaving a contingent to mask Ma'an the Arabs, shortly after the surrender of Jerusalem to General Allenby, pressed northward and in a brilliant little campaign between January and April, 1918, conquered the fertile region south and east of the Dead Sea, El Kerak, the capital, being captured on April 7. Repeated and daring raids on the Hedjaz railway were a marked feature of the Arab operations. Some of these raids were made as far north as the neighbourhood of Damascus. Nevertheless the Arabs were unable for a long while to effect a permanent occupation of any part of the line; the Turks—with German help—showed great energy in repairing the damage done, and they were able by means of the railway to send reinforcements to Ma'an and Medina. Thus those places were enabled to hold out. After heavy fighting near Medina in 1916, the Meccans contented themselves with a somewhat loose investment of that city. In two years of warfare, besides clearing the Turks entirely from southern and central Hedjaz, and from 800 miles of the Red Sea Coast, the Meccans had killed, captured or immobilized fully 40,000 Turkish troops, the majority belonging to the finest regiments in the Ottoman Army. The loss of Mecca was moreover a great moral blow to the authority of the Osmanli Sultan in the eyes of almost all Moslems.

The causes of the Arab revolt, which extended far beyond the confines of the Hedjaz, were both racial and religious. The secular hostility between Arab and Turk is notorious. While the Turk hated and distrusted the Arab, whom

WESTERN ARABIA.

he had despoiled of his finest lands, nowhere and at no time was Ottoman rule acceptable to the Arab, who looked with disdain on a race intellectually and in many other things his inferior. And in Arabia at least the Arabs had succeeded in retaining a large measure of independence. But after the conquest of Egypt in 1517 by Selim the Grim, who had already made himself master of Damascus and Jerusalem, the Emir of Mecca acknowledged him both as Caliph and lord of the Hedjaz. Since that time the Emirs or Sherifs of Mecca, though usually in fact independent, were nominally Ottoman vassals.* In recent times the Turks maintained a precarious authority chiefly by their control of the seaports and heavy subsidies to the Arab princes and tribes. The troops stationed in the country were but a garrison in a foreign land, whose authority extended no further than the range of their guns. The Hedjaz was always a drain on the Turkish Treasury, but it was a question of prestige to hold the Holy Cities of Islam. "The Servant of the Cities of Mecca, Medina and El Kuds [Jerusalem]" was one of the most prized of the titles of the Padishahs. The Sultan Abdul Hamid, by his Pan-Islamic policy, had secured the support of the Sherif of Mecca, and by the building of the railway from Damascus to Medina he had very appreciably increased Ottoman power in Western Arabia. Begun in 1901, the section of the line from Damascus to Ma'an (285 miles) was completed in 1904, and Medina, 820 miles from Damascus, was reached in 1908. Built to a considerable extent with money obtained from the Faithful, on the ground that it made easy the *Haj* (pilgrimage) to the Holy Cities, the railway enabled the Turks to tighten their hold on the Hedjaz and the provinces south of it, Asir and Yemen. Thus when Turkey joined in the war in October-November, 1914, her position in Western Arabia was fairly strong. In Asir, which lies between the Hedjaz and Yemen, the ruling prince, Sayyid Mohammed ibn Ali el Idrissi, was in open revolt, but in Yemen there was no more than the normal unfriendliness between the tribes and the Turks, and there the Turkish commander, Ali Said Pasha, was able to take the offensive against the British in the Aden Protectorate.† In March, 1918, the Turks admitted that part of Yemen was in revolt, but claimed to have the support of the Imam. The Turkish force near Aden, occupying the fertile Lahej valley, seems to have quietly settled down, the monotony of existence being relieved by patrol affairs with the British garrison of Aden. It was claimed by the

* At the beginning of the nineteenth century the Wahhabi of Nejd (north central Arabia) made themselves masters of the Hedjaz. They were driven out, after much hard fighting, by the armies of Mehemet Ali, viceroy of Egypt, and the Hedjaz remained in Egyptian occupation till 1845. It was not until that year that the Hedjaz for the first time came formally under the direct control of Constantinople. Egypt retained the administration of the north-east coast, the land of Midian, until 1892.

† See Vol. X., pp. 400–404.

THE HEDJAZ FLAG.
The Flag is of black, green and white, with a red triangle next the staff.

British Government that the majority of the tribes in the Protectorate remained true to their allegiance, and that the minor operations carried out prevented Ali Said from sending back troops to deal with the Yemen revolt. The situation at Aden was certainly anomalous, but the development of events in other parts of Arabia prevented the Turks from reaping much advantage from it.

In the Hedjaz itself there was, in 1914–15, no outward sign of revolt, though sympathy with the Emir of Riadh (the Nejd principality which is the modern representative of the Wahhabi Empire), who was waging war against the Turks, was scarcely concealed. In reality anger against the Ottoman was as deep in the Hedjaz as throughout Arabistan—that is, all the Arab lands. The Committee of Union and Progress, which had overthrown the Hamidian régime, had excited the liveliest distrust of all the non-Turkish races by the development of its Turanian policy and its increasing servitude to Germany. And since the great war had begun to the massacre of Armenians and the persecution of the Greeks in Anatolia it had added the oppression, spoliation, starvation, and deportation of the Syrians, Christians and Moslems alike. In the early part of 1916 Djemal Pasha, the notorious vali of Syria, arrested and executed many of the leading Arab notables of Damascus and Homs, among them members of the Sherif of Mecca's tribe. The tomb of Abd el Kader, the great Algerian hero, a man held in veneration throughout Islam, was desecrated and his dust scattered abroad. Enver Pasha, visiting Mecca about this time (January, 1916), shocked the orthodox by his practical atheism, as much as by his indifference to the needs of the country. He could preach a *jihad* if it suited his political purposes, but he had no regard for the law of Islam. It was the dishonour to his faith that finally decided the Emir Husein to break all ties with Stamboul. In a proclamation "To the Moslem World," issued in August (1916), he gave the reasons for his action. The Emirs of Mecca, he said, had acknowledged the Turkish Government "because they desired to strengthen the congregation of Islam." But since the Committee of Union and Progress had "laid its hands upon power, ruin has overtaken the State," and "the lust of the Committee was unsatisfied until it departed from the precepts of the Koran, thus breaking the only enduring bond with the true followers of Islam." It sacrificed the lives of many of its subjects, Moslems as well as others, and it was "sapping the foundation of the Caliphate." He (the Sherif) could not leave the religion and existence of the Arabs as a people to be the plaything of the members of the Committee.

It was open to all men to see that the rulers of Turkey were Enver Pasha, Djemal Pasha, and Talaat Bey, who were doing whatsoever they pleased. . . They wrote to the Judge of the Sacred Court of Mecca traducing the verses in the Sura of the Cow [the Second Chapter of

MEDINA.
General View showing the Great Mosque.

the Koran *], and enjoining them to reject the evidence of believers outside the Court, and only to consider the deeds and contracts engrossed within. They manifested their guilt when they hanged one day 21 of the most honourable and enlightened Moslems [here followed the names of the victims]. To destroy even so many cattle at one time would be hard even for men void of all natural affection and mercy. Even supposing they had an excuse for this evil deed, God saith, "Do not punish anyone for the sins of another," and they had no reason to exile and torture the innocent families of these ill-fated men and to rob them of their possessions.

Husein ibn Ali, Sherif of Mecca† and hereditary Keeper of the Holy Places, was the natural leader in a national movement for Arab independence. In Syria and in Mesopotamia the Arabs could look only to the British for help; in Arabia the Arabs had still the power to strike on their own behalf. They had lived for centuries in isolation, but they retained the qualities which had enabled their ancestors to spread their conquests from India to Spain. They had indeed, since the removal of the seat of the Caliphate to Damascus, been largely divorced from the fuller stream of Arab life, but their pride of race was undiminished, and to it had been added a quickened sense of union with their kinsmen beyond the borders of Arabia. The Arabs in the Hedjaz rallied to the Sherif of Mecca as their rightful leader. Head of one of the two principal families in the Hedjaz, he was of the tribe of the Prophet and held a position resembling both that of a feudal lord and Highland chieftain. His tribesmen and dependants held property all over the Hedjaz, the leading men acting as his deputies in the administration of the ancient Arabic law. His office was temporal—that of Emir (Prince) of Mecca, but the custodian of the Holy Places was also looked upon as a religious leader and in his action he had the full support of the Ulema of Mecca. The Emir Husein's personal qualifications added to his authority. A man somewhat past middle life, of good presence, known as a sagacious and prudent prince, strictly orthodox yet free from fanaticism, he had a receptive mind and an appreciation of the material advantages of Western civilization. His sons, or the elder among them, had travelled extensively, were of keen intelligence and already known as capable leaders of men. Four of them, the Emirs Faisal, Abdulla, Ali, and Zeid, were, when independence was proclaimed, placed at the head of the Meccan forces.

Many difficulties had to be overcome before the Sherif could take the decisive step. The Turkish troops garrisoning the country numbered 20,000, they were highly disciplined, well equipped in all respects, and strong in artillery. The Arabs, though they could put double that number of men in the field, had little military discipline, were lacking in material and had scarcely any artillery. But they had the advantage of great mobility and an intimate knowledge of the country. The most of it is barren, a fairly level plateau, separated from the Red Sea coast strip by a rugged mountain-range—the steep escarpment of the plateau. Fully 700 miles in length and nowhere more than 200 miles wide, the Hedjaz, with an area somewhat larger than that of Great Britain, has only five towns of any size and a total population scarcely exceeding 300,000, the majority

* This *sura*, which contains the Moslem's favourite description of the Divine Majesty and might beginning "God! There is no God but He," in its closing passages deals with contracts for debt. Another complaint of the Sherif was that the Turks compelled believers to break the fast of Ramadan, one of the "five pillars" of Islam.

† All Arabs reckoning kinship with Mahomet are sherifs (*i.e.*, *sharifs* or *seyyids* = lords) and those living in the Hedjaz form a privileged, religious caste. The Keeper of the Holy Places as pre-eminently *the* Sherif was usually called by Europeans the Grand Sherif.

Bedouins. The towns are Medina, in the centre, Mecca, south central, Taif, south of Mecca, and Yambu and Jiddah, the ports of Medina and Mecca respectively. The district of Taif, geographically an extension of Yemen, the *Arabia Felix* of the ancients, is fertile, as are also various valleys farther north, such as that in which Medina is situated, a valley celebrated in the East for its hundred varieties of dates. From Medina north to the Syrian border at Ma'an, a distance of over 400 miles, the country is almost all a sandstone desert bounded by *harra* (lava fields) and in the whole of the Hedjaz there is no perennial stream.

In such a country, with the whole of the inhabitants against them, the Turks garrisoning the towns, as soon as fighting began, were compelled to act on the defensive. Such was the design of the Sherif, who was able to complete his plans without interference from Ghaleb Pasha, the Turkish vali. The blow, indeed, fell unexpectedly upon the Turks. The Sherif divided his forces, horsemen, camelry and foot, into four parties: one remained at Mecca, a second was sent north under the Emir Faisal towards Medina, a third, under the Emir Abdulla, went south to Taif, and the fourth, under the Emir Zeid, westward to Jiddah. For the success of the enterprise it was essential that the Sherif should become not only master of Mecca but of the means of access to it, namely, Jiddah and the 40 to 50 miles of country which lies between it and Mecca. The conquest of the rest of the country might follow more at leisure; ability to receive and safeguard pilgrims to Mecca would be the test of his claim to independent authority.

The proclamation of independence was made at Mecca on June 5. The townsmen sided at once with their Sherif, but the Turkish garrison rejected the summons to surrender, and opened fire with their artillery on the Great Mosque. It was not until June 13 that the resistance of the Turks in the town was completely overcome, and the soldiers in one or two small forts outside the walls held out till the middle of July. The total captures of the Sherif at Mecca were 950 unwounded and 150 wounded men, 28 officers, four guns, and large stores of munitions. The Sherif himself, a couple of months later, described the sacrilege of the Turks in firing on the Great Mosque. In the proclamation to the Moslem world already quoted, after reciting other misdeeds of the Turks and making an indignant reference to the destruction of the tomb of Abd el Kader,

[*French official photograph.*

THE BRITISH CONSULATE AT JIDDAH.

"our most righteous and upright lord and brother," he continued:

What stronger proof of the faithlessness of their hearts to religion and of their feeling towards the Arabs can we desire than the bombardment of that ancient house which God has chosen as His house. . . From Fort Jyad, when the revolt began, they shelled it and the first shot struck a yard and a half above the Black Stone, the second fell three yards short, so that the flame caught the Kiswa [Holy Carpet]. When the people saw this, thousands at first raised a lamentable cry, running to and fro, and then shouted in fierce anger and rushed to save it. They had to burst the door and mount the roof before they could quench the flames. Yet the third shell fell on the Tomb of Abraham, and other shells fell in the precincts, of which they made a target for their guns, killing daily three or four who were praying within the Mosque till they prevented the people from approaching for worship. This will show how they despised God's house and denied it the honour given to it by believers.*

THE HOLY CARPET, WOVEN ANNUALLY IN CAIRO, AND THE WEAVERS.

Meantime the force sent against Jiddah had been completely successful. Blockaded on the land side by the Arabs, cut off from all hope of succour by sea by the activity of British warships, the garrison capitulated after about a fortnight's siege, 1,400 men, 45 officers, and six guns falling into the hands of the Arabs. Not till Jiddah had fallen was the news of the Arab revolt made public in Europe, a telegram sent from Cairo on June 21 giving the first intimation of the movement and its good fortune. And the events of the next few months showed that it was no temporary loss the Ottomans had suffered. On the Red Sea Turkish power quickly and almost completely vanished. On July 10 the Idrissi completed the discomfiture of the Turks in Asir by the capture of Kunfida, the port and chief town of the principality. A little later a Meccan force conveyed north from Jiddah by ship surprised and captured Yambu, a British warship giving a helping hand. Muwela, Damgha and El Wigh, small ports on the Midian coast (the last named retaining traces of former importance), were also cleared of the Turks, who from Yemen northward retained on the Red Sea only Akaba, situated at the head of the Gulf of that name close to the Sinai frontier.*

In the south the Emir Abdulla pressed the siege of Taif. Here the vali, Ghaleb Pasha, commanded the defenders, who numbered some 3,000. Ghaleb had fought in the Balkan wars, had been captured by the Greeks, and owed his appointment to the Hedjaz to the favour of Enver Pasha. He held out for over three months, but towards the close of September was forced to capitulate. The news

* Some six weeks previously, in the middle of May, 1916, the Baghdad Turks had shown wanton disregard of the feelings of the Shi'ite Moslems in firing upon the great shrine of Hosain at Kerbela (Mesopotamia), with its golden dome and triple minarets.

* The Turks still held the seaports of Yemen—Hodeida, Loheiya, Mocha. The blockade of the coast by British warships continued. On June 12, 1917, landing parties captured the fort at Saliff, between Hodeida and Loheiya, in the Kamaran anchorage. The Turks put up a three hours' fight, losing 94 taken prisoners, two mountain and three machine guns, stores, camels, and harbour plant. One British seaman was killed.

MECCA.

Showing the Kaaba or Great Mosque, for the adornment of which the Holy Carpet is sent from Egypt. In the centre is seen the famous Black Stone.

was announced by the Emir Abdulla in the following dispatch:

After reaching an agreement with Ghaleb Pasha as to the terms of surrender my army at midnight [? September 22] occupied the barracks and gates of the town, Arab cavalry surrounding it. The people were ignorant of what was happening. When morning broke I entered Taif and disarmed the garrison. The booty consists of 10 guns, 1,700 rifles, besides others in the depots, over 800 bombs and shells, and 160,318 rounds of ammunition. Eighty-three officers, 1,982 men, and 72 civil officials surrendered.

With the capture of Taif the whole of the Hedjaz except Medina and the railway was freed from the Turks. At the beginning of the operations the Emir Faisal had laid siege to Medina, and his horsemen, riding across the desert, had torn up a considerable section of the railway near El Ala, 150 miles north of the city; action which delayed the arrival of Turkish reinforcements from Damascus. In August the Turks made a great sally, and a pitched battle was fought in the plain south of Medina. In this encounter Faisal's casualties were about 500, those of the Turks were estimated at over 2,000. The Turks retreated to the city, where they perpetrated every species of barbarity upon the inhabitants (who favoured the Sherif's cause), many being hanged or crucified. The Emir Faisal was unable to follow up his advantage, and for months there was little alteration in the military situation. The first phase of the campaign was ended; before operations were actively renewed the Arab forces had been reorganized and turned into a disciplined permanent army.

From the very first the Young Turks had recognized the serious character of the action of the Hedjaz Arabs. That the loss of Mecca greatly weakened the prestige of Turkey throughout Islam was shown by the rejoicings with which the news of its deliverance from Ottoman control was received in almost every part of the Moslem world. At the first word of the rising reaching Damascus, Djemal Pasha stayed the execution of Arab notables, though later on executions were resumed, but hundreds of Arabs were deported from Syria to Anatolia. The newspapers at Constantinople were forbidden to mention the revolt; the first intimation the public of the capital had of any untoward event was the announcement on July 2 that Ali Haidar Pasha,* first Vice-President of the Senate, had been nominated Emir of Mecca. Ali Haidar shortly afterwards appeared at Damascus, but does not seem to have got any nearer to the Hedjaz. Enver Pasha realized that he could do nothing against Mecca, but orders were issued to hold Medina at all costs. At that time, the summer of 1916, many troops (including Austrians and Germans) had been poured into Syria for a second invasion of Egypt—an enterprise which ended disastrously at Romani—and some of them were deflected for service in the Hedjaz. The value of the Hedjaz railway at once became apparent. The Turkish soldiery

* According to the Constantinople correspondent of the *Berliner Taqeblatt* Ali Haidar married an Englishwoman who had been converted to Islam. His sons were said to have had a German tutor.

French official photograph.

REVIEW OF THE SHERIFIAN TROOPS: A BAND.

travelled south from Damascus in perfect safety, the garrison of Ma'an was strengthened, and despite the cutting of the line at El Ala reinforcements reached Medina. When raids on the railway became frequent, repairing units were formed, while camel convoys were also organized, with the help of certain Bedouin tribes who took the Turkish side, either to satisfy tribal feuds or for lavish payment. Later on, when first Baghdad (March, 1917) and then Jerusalem (December, 1917) were lost, the retention of Medina became of even greater importance to the Turks. While they held the burial place of Mahomet they could still make some sort of claim to the hegemony of Islam; and since the fall of Mecca they had tried to play the orthodox *rôle* and had accused the British of injuring Moslem shrines.

Attempts to represent the British and Allied Governments as inimical to Moslem interests gained no credence and were directly contrary to fact. As soon as Great Britain was involved in war with Turkey the British Government, through the Viceroy of India, gave (November, 1914) public assurance that "no question of a religious character" was involved in the war and that the port of Jiddah as well as the Holy Places in Arabia and the Holy Shrines in Mesopotamia would be immune from attack so long as there was no interference (by Turkey) with pilgrims. And at the request of the British the Governments of France and Russia, the two other European Powers with millions of Moslem subjects, gave similar assurances. The promises by these Governments were scrupulously kept, but the blockade of the Arabian coast of the Red Sea by British and French warships necessarily hampered the movements of pilgrims, and those pilgrims from India and North Africa who did reach Mecca in 1914 were badly treated by the Turks.

As careful guardians of the interests of their Moslem subjects the Allied Powers looked with sympathy upon the Arab movement. It was the settled policy of Great Britain—a policy which had the support of France and Italy—that the "Sacred Lands" of Mecca and Medina should be under Moslem rule, and when it became apparent that Turkey was ceasing to represent Islam they were prepared to welcome the transfer of the Hedjaz to a native prince. As soon as by the capture of Mecca and Jiddah the Emir Husein had shown that he possessed real authority he received the moral and, as far as could be, the material support of the Allies, which in practice meant chiefly the help of the authorities in Egypt and the Sudan. No countries were more intimately concerned, both

politically and economically, in the fortunes of the Hedjaz; the Red Sea, little more than a hundred miles wide, joined rather than separated them. The success of the Sherif reacted favourably on the African shores of that sea, and, coming about the same time as the overthrow of Ali Dinar of Darfur and the Senussi Sheikh,* it had a salutary effect on the small but dangerous pro-Turkish party in Egypt. So long as Turkey held the opposite shore of the Red Sea the watch and ward, on land and sea, along the Egyptian and Sudan coast had been an arduous business; with a friendly State in possession of the Arabian coast that business was distinctly lightened. The difference it made was shown by the almost immediate resumption of trade between Suez, Port Sudan and Suakin and Jiddah, and this was accompanied by a wholesome reorganization of the administration by the Hedjaz government. An Arab director of Customs was appointed, the services of Greeks and other foreign residents at Jiddah were utilized. A weekly newspaper, *Al Kibla*, was founded at Mecca as the organ of the government; schools were opened, a Public Works Department established, and the sanitation of Mecca and Jiddah taken in hand. The zeal of the Sherif for reform was indeed remarkable. In all these efforts and in his intercourse with the outer world he had the cordial support of the Egyptian (British and Moslem) authorities, notably of Sir Reginald Wingate, in whose hands was the direction of British policy in Western Arabia.* A Hedjaz Agency was opened in Cairo, one of its first tasks being the arrangement of the pilgrimage to Mecca. The departure of the Holy Carpet on September 21 was the occasion of an impressive ceremony, General Sir Archibald Murray being present; it was carried from Suez

* See Vol. IX., Chap. CXLV. It may be added that Ali Dinar after his defeat in May, 1916, as narrated in that chapter, fled to the western confines of Darfur with a small following. He was pursued by a force of 300 men of the Egyptian Army, and killed in an engagement on November 6 following. The survivors of his band surrendered, and thereafter Darfur settled down to a peaceful existence as a province of the Sudan. As to the Senussi Sheikh he was compelled during the last half of 1916 to withdraw from the oases he had occupied nearer the Nile to Siwa. There he was severely defeated in February, 1917, by a force which had crossed the desert from Matruh, on the Mediterranean, in armoured cars. Thereupon he fled into the Libyan Desert, whither he was not pursued.

* At the time of the Sherif's proclamation of independence Sir R. Wingate was Sirdar of the Egyptian Army and Governor-General of the Sudan. On January 1, 1917, he became, additionally, High Commissioner of Egypt. He removed from Khartum to Cairo, an Acting Governor-General being appointed for the Sudan.

French official photograph.

EVACUATING TURKISH WOUNDED.

on board H.M.S. Hardinge, of the Indian Marine, and awaiting it at Jiddah were two other British warships, one of them the Admiral's flagship. The Admiral and the Emir el Haj (Prince of the Pilgrimage) exchanged visits, salutes being fired on each occasion. These honours paid to the Holy Carpet by a Christian Power created a deep impression on the Arab mind. Its arrival in Mecca, accompanied by hundreds of pilgrims, was the occasion of much rejoicing. The

THE HEDJAZ FLAG ON THE DIPLOMATIC AGENCY IN CAIRO.

pilgrims, though they could not visit Medina, were able to go to Afarat (some 12 miles from Mecca), and there perform the essential ceremonies of the *haj*. On their part the French arranged for a pilgrimage from North Africa and sent Moroccan, Algerian, Tunisian and West African notables on a special mission to the Sherif. The testimony of all the pilgrims was the same, never before had they been so well treated or their journey accomplished with so much comfort, whether they rode on camels or went afoot. There was no extortion, no robbery, and no outbreak of disease, the customary concomitants of a pilgrimage in the days of Turkish rule.

With every sign of a settled and independent existence official recognition of the new State by the Allies was not long delayed. On Nov. 16 (1916) the Grand Sherif had assumed the title of King of the Hedjaz, and in the following month his title was definitely recognised by the Governments of Great Britain, France and Italy. British and French cruisers were sent to Jiddah to congratulate the new sovereign, King Husein, who travelled down to Jiddah with his principal ministers. "The greatest of Arab princes," as the commander of the French cruiser hailed him, visited all the warships in turn. "I am happy," he said, "to visit the brave and heroic Allies, who have proved their virtues to the world and who merit all respect and honour." This visit of Allied warships was more than a ceremony; it was outward evidence of the support the Allies were prepared to give a great Moslem prince in his efforts to liberate the Arab world from Ottoman tyranny.

So far the Arabs had gained their victories by their rapidity of action and the successful manner in which they had cut off the Turkish garrisons from all hope of succour. Courageous and daring warriors, the Arabs had all the advantages which mobility and knowledge of the country gave, but their organization was imperfect, the tribesmen were naturally intolerant of control save by their own Skeikhs, and it became obvious that to conduct with any hope of permanent success further operations against the Turks it was necessary to create an army in the modern sense. The booty secured at Mecca, Taif and Jiddah had to a partial extent supplied the Arabs with guns and ammunition; more was needed; the ranks required stiffening with trained soldiers, and experienced officers were wanted. In this dilemma aid was forthcoming from Egypt. A contingent from the Egyptian Army —which includes an Arab battalion—gave valuable help. Among the prisoners of war held by the British were a considerable number of Arabs who had been forced to fight for Turkey. These were given the opportunity of helping their brethren in the Hedjaz, and a large proportion, officers and men, accepted the opportunity. A British medical officer took charge of the arrangements at the base for looking after the wounded and—a notable instance of the ramifications of its beneficent work—the British Red Cross Society sent stores and comforts from its depôt at Suez to Jiddah, Yambu

PROCESSION OF THE HOLY CARPET IN CAIRO, ON ITS DEPARTURE FOR MECCA.

209—3

AKABA.

and El Wijh. In these and in other ways the needs of King Husein were supplied. Help came also from the tribes of Eastern Syria and Central Arabia. The creation of a well-disciplined army took time, but 1917 had not far advanced when the Arabs were ready to resume active operations. The Hedjaz army, as heretofore, was still in four groups. One group, under the Emir Faisal, now became an expeditionary corps for operations beyond the Hedjaz border, the command of the force in the Medina district being taken over by the Emir Abdulla, while the Emir Ali was in the northern Hedjaz, between the forces of his brothers. The Emir Ali secured Faisal's rear from any attacks by the enemy, a task he performed mainly by himself repeatedly attacking the Turkish posts along the Hedjaz railway. These posts were placed some 30 miles apart, each being furnished with a well and reservoir. Each garrison was supposed to patrol a given section of the line, and they were kept fully employed by the Emir Ali. The Emir Faisal meanwhile took his force across the deserts north of Medina some 400 miles until he reached the Sinai-Syria border. Then, on a 60-mile front from the Red Sea to Ma'an, he captured and occupied all the Turkish posts, the last to fall being Akaba (July 6–7), close to the Egyptian frontier in Sinai. These operations were of direct advantage to Sir Edmund Allenby, who had just succeeded to the Egyptian command, as they put an end to any chance of the Turks again sending parties from Ma'an or the Northern Hedjaz into Central Sinai, which they had done as recently as January, 1917.

Most of the Emir Faisal's engagements were comparatively small affairs, but at Ma'an the Turks made a stout resistance, successful in so far that they retained the town. Ma'an is, from its position, and being set in an oasis in the midst of an arid tract of country, a place of considerable importance. It lies on the southern border of Syria 62 miles south-south-east of the Dead Sea, was one of the towns of the ancient Edomites, was a station on the old Sabean trade route to Petra and Gaza, and is still the chief stopping place on the route between Damascus and Medina. It contains wood and water, and was strongly held by the enemy, the garrison including a number of Germans. The oasis is fairly extensive. The Emir Faisal, as stated, failed to capture Ma'an, but he wrought the Turks much harm. During June over 700 Turks were killed in action, and an equal number taken prisoners, the majority in one encounter, when the enemy endeavoured to prevent the Arabs from destroying the railway line. On that occasion the Arabs captured four guns, and one of their prisoners proved to be a German engineer.

According to the information available [said a British War Office *communiqué*] the Arab forces have been working on a carefully thought out plan, resulting in the destruction of part of the railway line north of Medina [this was the work of the Emir Ali] and in the capture of isolated Arab posts. The plan of operations appears to have been skilfully conceived, and the daring and determination in carrying it out is remarkable. On more than one occasion the Arab forces attacked numerically superior forces and overcame them. . . . The Arab movement is apparently gaining the support of almost all the tribes in the Hedjaz and is [August, 1917] spreading eastward.

Ma'an remained in the hands of the Turks, and by establishing fortified posts south and south-west of the town they endeavoured to shut off the Arabs in the Akaba area A half-hearted attempt to recapture Akaba was also made. A Turkish *communiqué* spoke of the repulse of a French landing party (French warships patrolled this part of the coast) and the capture of a French flag, but these were events which did not happen. The lot of the garrison at Ma'an was unenviable. Arab horsemen continually harried the outposts, larger parties swooped out of the desert and, provided with the most scientific means of destruction, blew up culverts and tore up miles of rails. In August the Turks had to face an additional terror; from the British lines near Gaza, following—in the air—the route of the Sabeans thirty centuries earlier, came bombing 'planes, on the first of many unwelcome visits.

[*French official photograph.*

THE EMIR FAISAL WITH A GROUP OF OFFICERS.

On August 28 and 29 [said the British report] our aeroplanes, flying at a low altitude, carried out successful operations on the Ma'an district. Eight direct hits were observed on the engine sheds at Ma'an, while noticeable damage was caused to a field artillery battery and to other hostile troops. All our aeroplanes returned safely.

In September a particularly successful raid was made by the Arabs, a bridge being destroyed and a train derailed. Sixty-eight Turks and two German officers were killed and 80 Turks taken prisoners. The tenacity of the Turks in clinging to the railway was only equalled by their industry in repairing it. They fought with uncommon determination to retain their hold upon the line, and with it their position in Arabia—and in Palestine. For now the Arab army had opened a regular campaign against the railway and no portion of it was secure from their attentions—the northern section, from Damascus to the Dead Sea, was as much the object of raids as the southern section in the Hedjaz itself. For the time being the Emir Faisal made no attempt to occupy permanently the country north of the Akaba-Ma'an line, but with the co-operation of the Bedouin of the Syrian Desert he maintained a constant guerilla warfare, the mobility of the Arabs—and the desert—effectively protecting them from pursuit. Renewed massacres of Arabs in Syria and Asia Minor at this time (the autumn of 1917) were an indication that the Turks were particularly annoyed by the doings of the Hedjaz army.

In Palestine the Arabs were as badly treated as were the Jews, and when Jerusalem was delivered from the Ottomans it was as sincere

a matter of rejoicing to the Arab as to the Christian and the Hebrew ; for in Moslem eyes Jerusalem ranks in sanctity next to Mecca and Medina. One of General Allenby's first acts after the surrender of the city was to telegraph to King Husein that the Holy Shrines of Islam were intact, Moslem guards protecting them. He was assured that in the future settlement of Palestine full regard should be had to the rights of the Arabs, and, in fact, the Moslems, Jews and Christians in Palestine worked in harmony under the protecting care of the British military occupation. The King of the Hedjaz might have claimed that the operations of his army had given General Allenby some help in his campaign. The Arabs had hindered, if not prevented, the sending of reinforcements by the Turks to Palestine by the Hedjaz route. In mid-November, 1917, just after General Allenby had captured Gaza, the Emir Faisal conducted a series of most daring raids on the section of the line between Der'aa and Amman, the last-named place being the station for Jericho. Among other damage a bridge was destroyed and traffic was held up for six days. The Arab

SCENE OF THE FIGHTING SOUTH-EAST OF THE DEAD SEA.

EL LEWA EL SAYED ALI PASHA, C.M.G.
Commanded Egyptian forces in the Hedjaz.

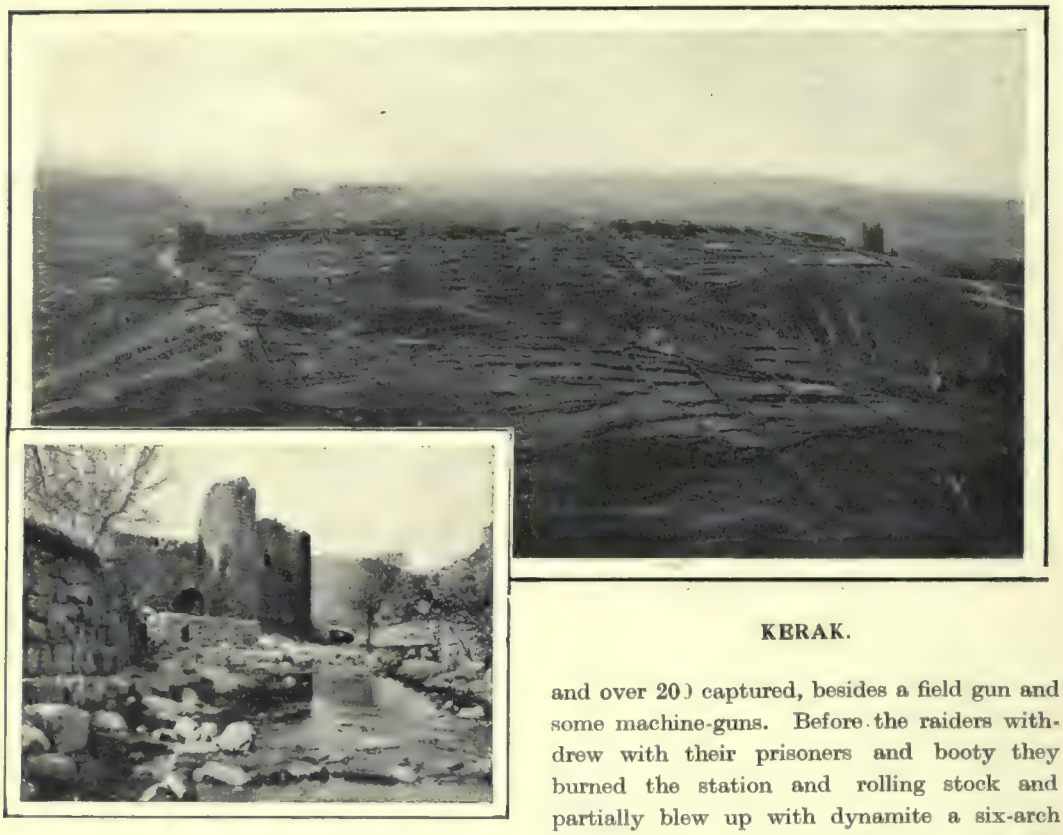
casualties were seven killed and four wounded ; the Turkish casualties were 120.

It was at this time, as stated in the chapter on the capture of Jerusalem, that the train in which Djemal Pasha was travelling was blown up, but Djemal, unfortunately, escaped. The Arabs helped, too, in this critical month of November, 1917, by renewed attacks on the Hedjaz line between Amman and Ma'an, holding up the traffic for five days. At the time the Turks were endeavouring to send reinforcements from their garrisons east of the Dead Sea to Jerusalem.

Although the co-operation between the British forces in Western Palestine and the Arab troops on its southern and eastern borders was not close it was real, and in January, 1918 the Emir Faisal began new operations which by the end of February had joined up the British-Arab front in the region of the Dead Sea. A month before Allenby's men seized Rujm el Bahr, the Turkish base on the north-

AKABA: THE RUINED TURKISH FORT.

west shores of that sea, the Arabs had established themselves on its south-eastern banks. The new campaign was preceded by increased activity in the Ma'an region, between Ma'an and Medina, and in the border region between the Hedjaz and Nejd. The Turks at Medina were endeavouring to open communications with the Emir ibn Rashid of Hail, whose partizanship of the Ottoman cause was chiefly due to the hereditary hostility between his house and the Shammar tribes and the Saud dynasty, the Emirs of Riadh, who held the greater part of Nejd and had (in 1913) driven the Turks from the sanjak by El Hasa, on the Persian Gulf. The Hedjaz Arabs, to counter the Turkish endeavours to aid the Emir of Hail, had seized Teima, which lies 200 miles north of Medina and 160 miles west of the town of Hail, in an oasis in the Nefud, or Red Desert. Several camel convoys which the Turks attempted to send from Ma'an to Medina or Hail were captured by the Emirs Ali and Abdulla, and farther north the railway was attacked by the Emir Faisal's army. In the middle of December Faisal's men made a specially noteworthy raid. Near Tebuk, one of the more important stopping places on the line, and some 350 miles north of Medina, a troop train was destroyed, all the Turks in it killed or captured and much booty taken, including £T24,000 in gold. Among the dead was "Suleiman Pasha Rifada, Paramount Chief of the Billi tribe, who, foolishly throwing in his lot with the Turks, was travelling in company with them." Around Ma'an itself there was continuous fighting during November and December, the Turks, who seem to have foreseen the coming offensive of the Emir Faisal, showing much activity. They attacked with pertinacity the encampments the Arabs had in the south and west of the oasis of Ma'an, but without any particular success. The nervousness of the Turks with regard to the region north of Ma'an was reasonable. East of the lower Jordan, the Dead Sea and the Wadi el Araba (the deep depression between that sea and the Red Sea), and bounded east by the Syrian Desert, is a tract of fertile land 100 miles or so in length and 30 or more in breadth. This was in part the eastern border of ancient Edom, but chiefly the land of Moab, known in modern times as the *kaza* (administrative district) of Kerak, from El Kerak (Kir of Moab), a hill town and fortress which from the days of Jehoshaphat—if not earlier—has been recognized as the key of the region east of the Dead Sea. Since 1893 Kerak, which had previously been semi-independent, had been strongly garrisoned by the Turks, who turned the castle of the Crusa-



AMMAN: RUINS OF THE BASILICA.

ders into barracks. The *kaza* produces much barley, sheep are numerous, there are many streams (emptying into the Dead Sea) and stretches of wood. Farther south, on the Edom border, is the forest of Hish, the principal source whence the fuel consumed by the locomotives on this section of the Hedjaz railway was obtained. A narrow gauge railway connected the forest with the main line at Anaize station.

It was to conquer this valuable region that the Emir Faisal set the Northern Hedjaz Army in motion in the early days of January, 1918. Strong parties were detached to keep the Turks at Ma'an in check, and General Allenby helped by three air raids on the town; barracks, supply depots and railway buildings being effectively bombed. The Turks by now had mounted anti-aircraft guns and brought aeroplanes to Ma'an, but all the British machines escaped. One Turkish machine was lost: it crashed into the Arab lines, both pilot and observer being killed. The Arab operations, short of the capture of Ma'an itself, were very satisfactory. Jauf ed Derwish, 40 miles north of Ma'an town, was occupied after a two-days' fight, in which 80 Turks were killed

KERAK.

and over 200 captured, besides a field gun and some machine-guns. Before the raiders withdrew with their prisoners and booty they burned the station and rolling stock and partially blew up with dynamite a six-arch bridge. South of Ma'an the Arab artillery bombarded, among other places, Tell-esh-Shahim, doing much damage. Altogether the Turks in the Ma'an district were very much occupied, and could give no help to their brethren at El Kerak.

Faisal's advance to the Dead Sea was in two columns. One column, marching along the road from Akaba, west of the Hedjaz Railway, drove back the Turks to within five miles of Ma'an town. This operation covered the movements of the second column which, advancing rapidly from Wadi Musa (the River of Moses) and the wonderful rock-hewn ruins of Petra, compelled the Turks to evacuate the Hish Forest. In succession the Arabs occupied Shobek, the forest terminus by the Turkish light railway, and Tafile, where the garrison, of about 100 men, surrendered. Tafile is but 18 miles south-east of the Dead Sea, and its loss perturbed the Turks at El Kerak. They determined on a counter-stroke. A force consisting of eleven battalions of infantry, some cavalry, with mountain artillery and machine-guns marched south hoping to recapture Tafile. The opposing forces met on January 26 at the banks of the Seil el Hesa, 11 miles north of Tafile. The engagement which followed ended in the complete rout of the Turks. They lost over 400

killed, while over 300, including the commander of the forces, were made prisoners. The Arabs also captured two mountain guns, 18 machine-guns, 800 rifles, and 200 horses and mules.

The Emir Faisal quickly followed up his advantage. Two days later (January 28) another of his columns pressed north between El Kerak and the Dead Sea and reached the shores of that remarkable lake—the lowest point in the earth's surface, 1,292 ft. below sea level. They attacked and captured the post of El Mezra, sank an armed launch and several dhows, and seized large stores of grain and 60 prisoners. The remnant of the Turkish force, some 40 men, fled to Kerak. Now firmly established east of the Dead Sea, Faisal rested and reorganized his troops for the next phase, the advance on Kerak itself. Occupying a hill 3,000 ft. high, with strong defences, and only 20 miles from El Kutrani Station on the Hedjaz Railway, and thus capable of being quickly reinforced, the attack upon it required careful preparation. The Arab operations were indirectly helped by General Allenby's new campaign. Jericho had fallen on February 21, and in March Allenby, crossing the Jordan, raided the Hedjaz Railway at Amman, 55 miles east-north-east of El Kerak. Allenby's raid gave the Emir Faisal his opportunity; moreover, he was further aided by units of the Royal Flying Corps and the Australian Flying Corps, which, on March 19, bombed El Kutrani. The raid was primarily, no doubt, intended to assist Allenby's own trans-Jordan advance, which began three days later, but it served a double purpose. The raiders were met by enemy aeroplanes, one of which was shot down. Two of the British machines were forced to descend by anti-aircraft fire: they were burnt by their occupants. Two pilots and an observer were made prisoners by the Turks. Despite this mishap, the raid, as General Allenby stated, was effective: 470 bombs were dropped on the station buildings and on railway trains, direct hits being observed on the objectives. The result was that El Kerak, left to its own resources, was abandoned by the Turks almost without a struggle. It was occupied by the Emir Faisal on April 7.

There had been marked activity, and much loss to the Turks, in the Medina and northern Hedjaz during the previous month, and around Ma'an in April there was almost constant fighting, but these operations had not the full

ON THE HEDJAZ RAILWAY.

measure of success which had attended the campaign east of the Dead Sea. The fall of El Kerak marked a definite point in the Arab campaign. It saw the Arabs in occupation of a region upon which the Turks had depended largely for their supplies in Ma'an and the northern Hedjaz and it gave them facilities for more direct co-operation with the British Army in Western Palestine.

The Kerak campaign was notable also in another respect. At El Kerak itself, and at other towns occupied by the Emir Faisal, the Arabs found some hundreds of Armenian families forcibly deported thither by the Turks, and mostly in a deplorable condition. These Armenian Christians received every consideration from the Arab commander, and those who wished it were sent to Judea or Egypt. This generous action was typical of the attitude towards non-Moslems of the new Hedjaz Government. It evoked the grateful thanks of the Armenian community. Boghos Nubar Pasha in a telegram to "the noble-born Emir Faisal" said:—"The chivalrous act of the noble Moslems who fight under your banners adds fresh lustre to the annals of the Arab race. Every Armenian throughout the world is to-day the ally of the Arab movement." To these and to similar messages, including one from the Lord Mayor of London, King Husein sent a reply in which he said:—

> Faisal, in assisting the oppressed, has only performed one of the first duties of our religion and of the Arab's faith. I say with confidence and pride that the Armenian race and other races in similar plight are regarded by us as partners in our fortune in weal and woe. We ask God before everything to give us strength to enable us to do them helpful service by which to prove to the world the true feelings of Islam, whose watchword is freedom.

It was natural that the oppressed nationalities of Turkey should sympathize one with another. "Remember, O children of Isaac," said an Arab speaker at a Zionist demonstration in London, "that the children of Ishmael suffer even as you have suffered," nor were the sufferings of the Armenians less. But it was scarcely a result the Young Turks could have foreseen when they plunged their country into war, that one of these races, professing Islam, should have held out the hand of fellowship to Christian and to Jew.

CHAPTER CCXLIX.

THE CONQUEST OF RUMANIA.

THE WINTER OF 1916–17—REORGANIZATION OF THE RUMANIAN ARMY—TRANSPORT AND ECONOMIC DISTRESS—HELP FROM THE ALLIES—THE RUMANIAN PLAN OF CAMPAIGN—EFFECT OF THE RUSSIAN REVOLUTION—OFFENSIVE BEGUN ON JULY 22, 1917—ANALYSIS OF OPERATIONS DURING JULY AND AUGUST—SUCCESS SPOILT BY RUSSIAN DEFECTIONS—GERMAN PROPAGANDA—RUMANIA'S TRAGEDY.

IN earlier chapters it has been seen how in the course of the year 1916 the forces of the Central Powers invaded Rumania, captured Bukarest on December 6, and then threw the Russians and Rumanians back to the line of the River Sereth.* By the end of December, 1916, the remnants of the Rumanian army were completely withdrawn over the Sereth, in order to be reorganized behind a curtain formed by 500,000 Russians. But, after such disasters, there were only a few who really believed that under the prevailing circumstances the reorganization of the Army would ever be carried out.

Only six divisions with a certain fighting capacity remained, out of the 24 which had been the contribution of Rumania to the cause of the Entente—the cause of her own freedom. The other 18 divisions existed only in name; they consisted of tired, demoralized soldiers, who had been retreating for weeks in face of a much stronger enemy and had lost all faith in their chiefs and in a final victory. The conditions of reorganization of the Rumanian Army were particularly difficult. On account of the agglomeration in Moldavia of all those who had fled before the invaders, the country was in want of everything, but nothing could be imported from the Allied countries owing to the lack of communication. In the winter of 1916–17 there was only one line of communication with Russia: the single track line (Kieff or Odessa-Razdelnaia - Kishinieff - Ungheni-Jassy). The second railway line (Odessa-Reni-Galatz) could not be utilized, for the junction Reni-Galatz was completed only late in the summer of 1917. Thus Rumania could be supplied from abroad only by the railway Odessa-Ungheni, and therefore had to live almost on its own resources. The conditions of communication in Moldavia were still worse. Nobody seemed to pay the slightest attention to this very important question. Every stationmaster acted independently. All the lines were blocked by a great number of wagons brought from the evacuated territory, and practically the whole traffic was suspended. A journey in the only passenger train still running was more dangerous than life in the trenches. Accidents due to collision or derailing were reported every other day. In one accident alone at Ciurea, near Jassy, 400 were reported killed and 700 injured. After this disaster the Rumanian Government decided to entrust to the British the reorganization of the railway. At first Colonel Norton Griffiths, who had distinguished himself in the destruction of the oilfields and grain stores, was asked to take over this difficult task. He was recalled after a short time, and the British Government sent out a mission of four officers under General de Candolle, to reorganize the Rumanian railway system. They fulfilled their task amply, and in the summer of 1917 the railways were running satisfactorily again.

The economic conditions of Moldavia were disastrous. Moldavia is less productive than Wallachia. In the summer which preceded the outbreak of the war, the Rumanian landowners,

* For the last phase of these operations see Vol. XII., Chapter CLXXXIV.

tempted by the huge prices offered by the Central Powers, smuggled to Austria the greatest part of their crops and cattle. The disaster of the Rumanian Army came very suddenly—in less than two months. Thus the Government had no time to transport to Moldavia the necessary supplies to feed the whole army, the civilian population—including many thousands of refugees from Wallachia—and partly the Russian armies, the number of which increased to about 800,000 men by the end of the winter. Accommodation and food had to be found for nearly 3,000,000 people in a country where the population does not exceed 1,200,000 souls. It was thus only natural that all commodities should disappear very soon after the arrival of this new crowd in Moldavia. The situation was much aggravated by a very cold winter, the coldest in the past 40 years

In the small dirty Moldavian towns and villages the misery among the civilians was beyond description. Too many people were crowded together in small houses, and were living in most unhealthy conditions. There was just enough food to keep them from starving. In such conditions it was only natural that typhus should make ravages among this unfortunate population, which died by scores. On the main roads corpses of boys between 14 and 17 who had followed the army in the retreat, were mingled with the corpses of hundreds of horses. Whole villages were wiped out by this terrible scourge. In the hospitals, where the doctors were compelled to place five patients in two beds, there was no room for the thousands of sick The situation was not much better in Jassy, the new capital, where many of the thousands who died had to be buried without a coffin, the supply of wood having been exhausted. Such were the conditions prevailing in Rumania at the period when the army had to be reorganized.

For the purpose of reorganization the army was divided in two: the 18 divisions which used to form the First, Third, and Fourth Army Groups, and which could not be considered as fighting units any longer, were withdrawn to the northern part of Moldavia, and were to form, after reorganization, the first Rumanian Army. The task of reorganizing

A RUMANIAN HEADQUARTERS IN THE CARPATHIANS.

HEAVY ARTILLERY ON THE MARCH.

these troops was entrusted to the new chief of staff, General Prezan, who distinguished himself in the early stages of the war as commander of the Fourth Rumanian Army, and subsequently showed great qualities when leading the army which defended Bukarest. The Second Army, composed of six divisions of eight battalions each, was the only Rumanian army in the field, and was assigned to hold a small sector on the Oitoz front with three divisions, whilst the other three were reorganized in the immediate neighbourhood. General Averescu commanded this army. The reorganization of the army which remained on the front certainly met with the greatest difficulties. The task of General Averescu was rendered somewhat easier by the mere fact that his divisions continued to face the enemy, and were, therefore, provided with the few still available supplies and ammunition. Yet the hardships of these troops were great. The divisions were in the Carpathians, far from any railway and lacking adequate roads. To arrive from the nearest railway station at the divisional headquarters one had to ride some 12 miles in the mountains through almost virgin forests. During the whole of the winter the communication with these divisions was extremely difficult, snow and frost hindering the engineers from making adequate roads. Even mountain horses could not be successfully employed to bring food to the soldiers, and thus every regiment had to despatch daily a whole company to fetch the rations. Owing to the lack of fodder and the frost the artillery and the train columns lost more than 75 per cent. of their horses. But the fact that the troops had in front of them the enemy who had to be prevented at any price from breaking through, kept the *moral* of rank and file high, and rendered General Averescu's task, at least in this respect, easier.

General Prezan had to deal with many more difficulties. It took weeks to collect the dispersed men, who, having lost their regiments wandered about the country hungry and cold, often begging in the streets for a piece of bread. None of them knew where their units were, nor did they try hard to find them. In fact, for quite a long time none of the authorities knew much about it. The disasters and hardships had much shaken the *moral* of the whole country, and everybody was looking after himself. When asked, the authorities generally gave a very casual reply, sending the men to some village or town. The soldiers had to walk in most cases to the indicated localities, and after having thus walked some 30 or 40 miles in a climate where the thermometer generally registered 20 degrees below freezing point, discovered that their units had never been there.

General Prezan put an end to this state of affairs. The men were collected from roads and towns and sent in groups to their units, which were placed in the little Moldavian villages.

Only those who have travelled in the Near

NEW TROOPS TAKING THE OATH.

Transylvanian troops which were captured by the Russians in 1915, and sent as prisoners to Siberia, were allowed to come to Rumania as a legion of volunteers.

East can realize what Rumanian villages are. A group of 50 to 100 little houses, composed each of two rooms, constitutes the village; pavement and drainage are completely unknown. In these small huts the men were installed. The winter was uncommonly severe and drifts of snow often made communications between two villages impossible. Most of the time the lack of wood compelled the soldiers to sleep in unwarmed rooms. Food was very scarce, and soon the commissariat supplied to the troops nothing but white beans, which were boiled and served as a kind of soup, and a very poor unsalted black bread, often quite uneatable. The sanitary conditions were incredibly bad. Soap was no longer existent throughout the country. The soldiers could not be provided with warm clothes, as the stock had given out. Men were often compelled to wear the same shirt throughout the whole winter; the plague of vermin was terrible. In the small rooms in which they were billeted, 20 to 30 men had sometimes to sleep together; the windows, if there were any, were generally blocked up with planks to prevent the wind from blowing in. The losses of the army from typhus were greater than the number of the killed in the field. Doctors and nurses, French, Rumanian, and English, did their utmost to check the epidemic. About 10 per cent. of the French doctors and more than 25 per cent. of the Rumanian lost their lives in the exercise of their duty. However, with the arrival of the spring, which was later than ever, the splendid qualities of the Rumanian peasant soldier showed themselves once more, and those who survived began the hard and strenuous work of preparation for a new struggle. The actual training of the new Rumanian Army began only in the middle of April; in July the army started successful operations.

The resurrection of the Rumanian Army was due not only to the great qualities of resistance of the Rumanian peasant, but also to the strenuous and devoted work of the French mission under General Berthelot. The Rumanian officers, although they had learned much from the sad experiences of the 1916 campaign, were not really conversant with the modern art of war. General Berthelot, accompanied by some 500 French officers, arrived in Rumania in 1916, when it was too late to do much to avert disaster. But their services proved invaluable for the subsequent reorganization of the Army. During the whole winter they lived together with their Rumanian comrades, sharing all the miseries with them and raising their depressed spirits. The clever and tactful advice of General Berthelot and his chief of staff, Colonel Petin, helped much to secure the reorganization of divisions fewer in number than at the outbreak of the war, but much better trained and with a much higher spirit than at the beginning of the campaign in 1916.

Expert French officers, who had seen much fighting on other fronts, were attached to the General Staff, as well as to the staffs of the two Rumanian Armies. A French major and

captain were attached to the staff of every division, and one or two French officers to each regiment. Technical officers were assisting the Rumanian officers throughout the various services of the army. The officers with the divisions and regiments had to assist and advise the Rumanian officers in drilling their men for modern warfare. Their *rôle* as advisers ceased when the actual fighting began. Then they took their place in front of a company or battalion and led the men to the attack like any Rumanian officer. Several of them were killed during the actions in July and August, 1917.

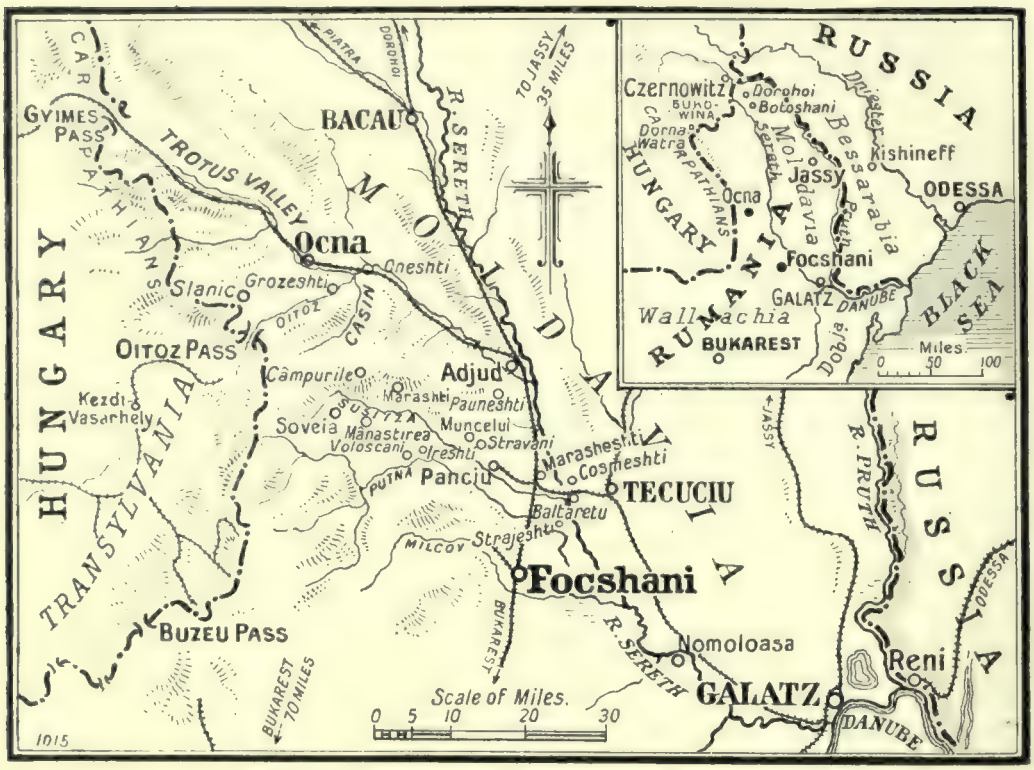
While the army was thus reorganized, working hard to get fit for the coming campaign, the Allies, who realized that one of the causes of the Rumanian disaster in 1916 had been the lack of ammunition and guns, started to send out through Russia great quantities of munitions, guns of all calibres, trench-mortars and everything necessary for a modern army. The Air Service, which was practically non-existent at the outbreak of the war, was now in the hands of experienced French airmen, and had a fair number of French and British aeroplanes.

Thus reorganized and prepared, the Rumanian Army was ready by the beginning of July to take the field again, and to avenge the reverses suffered in 1916.

Although the Rumanian Army was ready to strike early in July, the Russo-Rumanian Supreme Command delayed the operations, waiting to see the results of the Galician offensive, and hoping that, if successful there, the *moral* of the Russian troops, and especially that of the Ninth Army, might improve.

The Rumanian Army had, ready and well trained, by the end of June, 12 divisions, divided in two groups. The First Army, of six divisions, was under General Christescu, who during the early part of the war commanded the Army Group on the Danube and subsequently was Assistant Chief of Staff. The Second Army, under General Averescu, was the Army which had remained on the front since 1916, strengthened by new recruits, who were trained during the winter directly behind the front. Three divisions, which had not yet completed their equipment and lacked the necessary artillery, were kept behind, forming a general reserve under General Petala. General Prezan was Chief of Staff of the Rumanian Army. The Commander-in-Chief

COLONEL PETIN OF THE FRENCH MILITARY MISSION AT THE FRONT.



THE GERMAN CONQUEST OF RUMANIA.

of the Russo-Rumanian forces was the King, assisted by General Shtcherbatcheff, who commanded the Russian forces.

The Rumanian Army was well supplied with a very considerable number of machine-guns, and trench mortars. The artillery was provided with new French guns, and heavy guns, which were practically unknown at the outbreak of the war, had now arrived in great numbers from France and England. The Rumanian divisions were 14,000 to 16,000 men strong. Each battalion was provided with a machine-gun section, while at the outbreak of the war hardly two machine-guns were available for each regiment of four battalions.

With the 12 Rumanian divisions, and with the Russian Army, which, in spite of the desertions, still counted well over 500,000 men, the Allies hoped to begin a strong offensive on the Rumanian front, the success of which might have had far-reaching results. Unfortunately the germs of indiscipline were spreading rapidly among the Russian troops.

The plan of campaign elaborated by the Rumanian General Staff was that the Second Rumanian Army, in cooperation with elements of the Fourth and Ninth Russian Armies, should take the offensive in the southern part of the Carpathians, between the Susitza Valley and the northern part of the river Putna, in order to threaten the junction of the enemy's armies, and to attract the German forces in that direction. Meanwhile, the main blow was to be given on the Sereth between Focshani and Nomoloasa. If successful, this blow would have brought the Allies into the Wallachian plain and compelled the enemy to accept battle with the much superior Russo-Rumanian forces, out of his prepared positions. These armies which had made the thrust in the plain were to have their flanks protected by the advance of the Second Army in the Carpathians, which was to be carried out simultaneously.

For this offensive the Russo-Rumanian forces were distributed as follows: The Ninth Russian Army had to hold a defensive position from Dorna-Watra to Târgu-Ocna. The Second Rumanian Army (General Averescu) was on its left flank in the southern Carpathians, between the rivers Trotus and Putna. On the left flank of this army was the Fourth Russian Army (General Ragussa). The First Rumanian Army (General Christescu) took the position between Focshani and Nomoloasa, having on its left flank the Sixth Russian Army. Among the Russian Armies the Ninth

was very unreliable, the Sixth had shown signs of disobedience, while the Fourth, owing to the energy of its commander, was considered still uncontaminated.

Against these forces the Austro-Germans had two Army Groups: in the Carpathians, the Army Group of the Archduke Joseph, and the Army Group of Field-Marshal von Mackensen from the Sereth to the Black Sea. In front of the Second Rumanian Army and Fourth Russian Army, General von Gerok commanded a group composed of Austrian and German troops, while Mackensen had also

THE KING OF RUMANIA (fourth from the left) REVIEWING THE REORGANIZED TROOPS OF THE FOURTH ARMY.
General Averescu stands next behind the King.

two Bulgarian divisions and some Turkish units.

It was only in the second part of July, after the unfortunate Russian offensive in Galicia, that the Allies decided to strike the blow in Rumania. According to the plan, General Averescu's army had to start the preliminary operations. This army had to obtain a footing in the Putna valley in order to threaten the junction of the enemy between the plain of Cicul and the Focshani region, as well as to menace his flanks on the front Putna-Sereth. The Rumanian front of the Second Army had been divided for this purpose into two sectors: one, offensive, having as main objective the fortified Marashti line (north of the river Susitza) which had to be attacked with the bulk of the forces (three divisions); the other, defensive, where only demonstrations were to be made, in order to keep the Germans opposed to it busy. On July 22, a very strong artillery fire was directed against the German positions, which extended from the valley of Casin to the valley of Putna. Sixty batteries were massed against the Marashti line and bombarded it for 48 hours. During the bombardment, on the night of the 23rd the third Rumanian Division was pushed on into the valley, close up to the German lines and thanks to the configuration of the ground was not discovered by the enemy. On the 24th three large breaches were made in the enemy's defences, and at four in the morning the division was launched to the attack. The artillery fire was excellent. German officer prisoners declared that they believed they had to deal with French and British artillery.

The Marashti position, which was strongly fortified, with between six and ten rows of wire entanglements, four redoubts and a great number of machine-guns, was held by a division of General von Gerok's Army Group. The dash of the Rumanian infantry was splendid, and in spite of the desperate resistance of the surprised enemy, the village was stormed after a four hours' fight.

The success was immediately developed, the first division being launched after the flying enemy. While these troops followed

EXAMINING A CAPTURED TRENCH AT MARASHTI.

the enemy in a westerly direction, the third division continued to advance rapidly southwards towards the Putna valley. The enemy continued his panic-stricken flight. Many had no time to dress, and the enemy commander of the Marashti sector, Colonel Schmidt, ran away in slippers and bareheaded.

On the following days the pursuit continued. The enemy, who had no other prepared defensive line, tried to resist in the wooded mountains, being reinforced by two regiments brought for a rest from Macedonia to Rumania, and hurried to this front in motor-lorries from Focshani by Mackensen. On the 27th and 28th the fighting was more bloody than on the first day, but the Rumanians continued their advance. The number of prisoners taken by the Rumanians was over 3,000. The booty also was considerable, for the Germans had not expected an attack on this sector of the front, and owing to the quick action of the Rumanians, they had no time to destroy their material. The retreat was so hasty that there was no time to blow anything up, and the Rumanians captured, besides 80 guns and a great number of machine-guns, over 300 tons of ammunition and thousands of hand-grenades. North of Marashti the Rumanian troops reoccupied the whole region to the Transylvanian frontier.

With the capture of these important lines of positions the demonstrative action of the Second Rumanian Army came to an end, and the main action on the Sereth had to commence.

Since the 26th the artillery preparation had been in full swing. Several hundred Russo-Rumanian guns were hammering the German positions all along the Sereth, and the first lines of the enemy's trenches were already destroyed. The infantry of the Allied Armies, strengthened by a division taken from the Second Army, was ready to attack, when only six hours before the infantry attack, a telegram arrived from M. Kerensky, the head of the Russian Provisional Government, asking General Shtcherbatcheff to postpone the offensive on account of the situation in the north. In Galicia the Austro-Germans had made a counter-offensive and were driving the Russian troops rapidly back. Czernowitz and the northern frontier of Moldavia were threatened. Kerensky's orders were obeyed, though the success of the offensive seemed certain, as the troops of the Fourth and Sixth Russian Armies seemed not reluctant to fight.

The Rumanian Army completely proved its

capacity, when called upon to check Mackensen's offensive on the Sereth.

The Russian defeat in Galicia brought the Austro-German Armies not far from the northern frontier of Rumania. That section of that front was held by the Ninth Russian Army, which, as already observed, was considered by its chiefs to be the most untrustworthy of the Russian Armies in Rumania. This fact forced the Rumanian Command to displace troops from the Sereth, and to send them to the north, in order to face an eventual German attack on that front. The German High Command, which had positive information that the Rumanians were dislocating troops and dispatching them towards the Bukovina, decided to strike a blow on the Sereth during this regrouping movement. It seems that Mackensen had taken this decision at the eleventh hour, and risked a surprise attack only with the divisions and the artillery he had at his disposal for facing the intended Russo-Rumanian offensive. He had no more than 12 divisions to carry out his plan. According to a German staff officer, taken prisoner during the battle at Marasheshti, Mackensen hoped to find before him in the first stage of the offensive only Russian troops. His plan was to strike a decisive blow against the Russians, and to cross the Sereth before the Rumanians had time to intervene. For this purpose he chose as main objective of his attack the region north of Focshani, round the important railway junction, Marasheshti, and decided to cross the river over the bridge at Cosmeshti. If this operation succeeded, he meant to throw over the Sereth the bulk of his forces, and to cut the Allied Armies in two: one part would have remained on the lower Sereth without means of communication with the other, in the Carpathians and the north of Moldavia. Then, supported by the offensive of the Archduke Joseph in the Carpathians, they would have dealt easily with each army separately. The success of this operation seemed certain to the enemy's High Command: the following passage occurred in a letter, dated August 6, which was found on the body of a Prussian officer killed during the battle of Marasheshti: "We are going to deliver a decisive blow here very soon. If we cross the Sereth, which I hope will not be difficult, Jassy and the whole of Moldavia will be ours. If we succeed, I believe we are going to be sent to Flanders, where things seem to be hot again."

Mackensen was confident in the result of the operation, counting much upon the instability of the Russian troops and the success of the surprise. The only asset in favour of the Allies was the configuration of the ground.

GENERAL MARGINEANU,
Commander of the 3rd Division which stormed the German lines at Marashti.

the left bank of the Sereth, which was their last defensive position, being much higher than the right bank which was in the hands of the Germans and from which the attack started.

On August 6, the Fifth Rumanian Division was ordered to move from the lower Sereth, where it had been placed in view of the planned offensive, to the north to replace some Russian troops which had shown signs of insubordination. Whilst advancing on the left bank of the Sereth, its commander received a message from

the commander of the 34th Russian Division, holding positions on the right bank of the river, saying that being surprised by a strong German attack he had already lost four lines of trenches although his troops were fighting well. If speedy aid were not given to him, he could not be responsible for the consequences. The Rumanian commander, without waiting for instructions from the commander-in-chief, immediately gave orders to his artillery to come into action, and hurried across the bridge at Cosmeshti a brigade, to form a bridge-head, and subsequently followed himself with the bulk of his forces. The Russian positions south of the bridge were attacked, on the first day by one German division, then, on the next two days, after the arrival of the Rumanians, by two more German divisions. The position, already unpleasant owing to the numerical superiority of the enemy, was rendered more difficult by the unreliability of some Russian units. When, for instance, a strong Rumanian detachment arrived in the village of Strajeshti, south of Cosmeshti, to replace the Russians supposed to be holding it, they found the trenches already occupied by the Germans, the Russians having withdrawn without notice a few hours before. Received with machine-gun and rifle fire, the whole detachment was nearly wiped out. The defence of the bridge-head was certainly the most important deed of arms of the Rumanians during the whole campaign. The Germans attacked for three days the position with the best troops they had, namely, the Alpine Corps, the 89th Prussian Division and the12th Bavarian Division. Wave after wave of the attacking troops broke down in front of the stubborn Rumanian resistance. The Alpines and the Bavarians, which were used only as *Stosstruppen*, renewed their attacks eight times in one day without being able to get a footing on the bridge.

The losses of these troops were very heavy. After three days' fighting the 12th Bavarian division had only 2,000 men left. Prisoners from the Alpine Corps confessed that, since Verdun, they had seen no such severe fighting. The Rumanian losses were very heavy also: when the Fifth Division was withdrawn, after four days, each regiment was left with no more than 400 men, whereas at the beginning of the battle every regiment was 3,500 to 4,000 men strong.

There was a comparative lull after August 10 on the Marasheshti front, for Mackensen had to

AUSTRIAN AND GERMAN OFFICER PRISONERS.

CAPTURED GUNS AND MATERIAL AFTER THE JULY OFFENSIVE.

cease the attack in order to bring up reinforcements and to organize the captured ground. In the allied camp changes took place also. In order to secure unity of command, the King appointed General Grigorescu to command the First Rumanian and the Fourth Russian Armies, in place of the Rumanian General Christescu, who was given a staff appointment, and of the Russian General Ragussa, who was appointed commander of the Ninth Russian army.

General Grigorescu decided to take advantage of the apparent exhaustion of the Germans, and to counter-attack with the hope of recapturing the lost ground. The counter-offensive began on August 11, and was in full swing by the next day. The Rumanian troops attacked vigorously, while the Russians were given a defensive *rôle*. Some of the Russian units fought very bravely, but many failed in the most important stages of the offensive. The Rumanian Ninth Division received orders to attack the enemy's positions south-west of Cosmeshti. The attack began very successfully, the Germans being driven back, when a Russian division which formed the left flank of the Rumanians gave way without much reason, and without warning the Rumanian commander. The Rumanian flank was thus exposed, and the Germans immediately pushed into the gap all their available reserves. The Rumanians, being unexpectedly attacked on the flank, suffered very heavy losses. The whole division was practically annihilated; it came into action with some 14,000 men, and when withdrawn it had no more than 4,000. The Rumanian counter-offensive lasted till the 13th, when it came to a standstill on account of the heavy losses, lack of troops, and unreliability of the Russians. The High Command considered that the ground gained by the enemy on the western bank of the Sereth was not worth the sacrifice of other troops, which were so badly needed to face the second phase of the German offensive which was on the point of starting again.

After the failure of the first attack, Mackensen took four days to prepare a new blow, this time in connexion with the Archduke Joseph's offensive against the front of the Rumanian Second Army. Mackensen changed his tactics now, and instead of concentrating all his efforts on one point only, as he did previously, he started a series of new attacks on the whole front from Marasheshti to Stravani, endeavouring to find a weak spot in the line of resistance, or troops which would be reluctant to fight. For once on this front luck failed him, for wherever

he tried to deliver a hard blow he found his reach too short, and wherever he had any sign of success, as at Panciu for instance, his success was only partial; for when the Russian troops retired, Rumanians came in time to fill up the gap, making his continual efforts vain.

On August 15 a powerful artillery preparation started on the whole front. The artillery fire was particularly violent on the sector of Marasheshti and lasted for about six hours. Under clouds of dust and behind a screen of smoke and gases the German battalions were sent to the slaughter, their object being to press back the Rumanians from the bridge-head and to cross the Sereth. The Rumanian soldiers made as heroic a stand as any in the war, fighting unflinchingly, though whole regiments were decimated by the fire of the German guns and machine-guns. Officers and soldiers died in their positions, refusing to withdraw or surrender. Towards the evening the village of Baltaretu and the bridge-head of Cosmeshti were in German hands, but the passage across the river was not secured. The Rumanian commander withdrew his troops to prepared positions on the eastern bank of the river, which, being much higher and steeper than the western bank, offered a considerable strategic advantage.

Much easier and more successful was the task of the German units which attacked Panciu, a little town, between Marasheshti and Adjud, on the junction between the First and the Second Rumanian Army. Part of the Russian division to which the defence of this section of the front was entrusted, withdrew as soon as the Germans started shelling their positions, while the rest offered only a very slight resistance when the Germans attacked. They withdrew and dispersed themselves in the neighbouring villages and forests. This was not an isolated incident; while many Russian troops fought very bravely, as in the old days, a large number refused to fight at all, and whole divisions melted away under the eyes of their powerless commanders. For two days a Rumanian brigade tried unsuccessfully to collect these dispersed men and reorganize them in units, but all was in vain.

The loss of Panciu was serious, for it opened to the Germans the road towards the important railway junction of Adjud, and also threatened the junction between the First and Second Rumanian Armies, which had to collaborate very closely now, since the Fourth Russian Army was reduced only to a very few reliable divisions. Rumanian troops were hurriedly dispatched by General Grigorescu, in order to fill the gap and re-establish the communication between the two army groups. The Rumanians counter-attacked and although they were unable to recapture the little town, they re-occupied important positions which they held in spite of the enemy's efforts, and thus checked his advance.

Mackensen, who finally realized the sacrifices and difficulties of crossing the Sereth at Marasheshti, made no serious efforts in that region after the 15th Fighting still went on during August 17, 18, and 19, when the Germans captured the station of Marasheshti and the big wood floor factory, while the Rumanians held the village.

The great new effort of the Germans after the capture of Panciu, was along the Focshani-Adjud railway. Since August 16 new forces had been massed on that front—two German divisions and one Austrian brigade. Against this German force the Rumanians had a small part of the Eleventh Division, the whole Thirteenth Division, which arrived fresh on the 16th, and some Cossack detachments. The German attack started on the morning of the 19th with a very heavy bombardment which lasted the whole day without interruption. At 7.30 in the evening the infantry was launched to the assault. The enemy attacked with great determination and six waves came one after the other to the assault of the Rumanian positions north-west of Panciu towards the village of Pauneshti. The *moral* of the Rumanians was greatly raised by the presence of their King and of the Crown Prince who watched the progress of the battle from the observation post of the commander of the division. The fighting was very hot, and the enemy seemed to dispose of an inexhaustible amount of reserves. Wave after wave broke in front of the Rumanian defences until finally, towards 10 in the evening, the enemy succeeded in getting a footing in the Rumanian trenches. All the Rumanian reserves but one regiment were already used up. This regiment was launched as a last hope against the enemy. It counter-attacked with such a dash and violence, that the enemy, already certain of victory, was surprised and broke in disorder. The enemy could not be pursued, as the Rumanians had no fresh troops. The hand-to-hand fight lasted over three hours and the front of the Rumanian lines

was piled with corpses. The Austro-Germans left 600 prisoners in the hands of the Rumanians.

This was the last important operation undertaken by the Germans on the Sereth. It was also Mackensen's first serious reverse in the Balkans. After this, only minor engagements took place on this front. The Germans had shifted their efforts to the north, where they had to deal with demoralized Russian troops, while on the other hand the Rumanians could not undertake an offensive all alone, their losses having been too heavy, and there being no hope of any further help from the Russian Army.

DIVISIONAL HEADQUARTERS OF THE THIRD DIVISION IN THE CARPATHIANS.

After the failure of the first German attack on the Sereth, the German command decided that in connexion with the second offensive against that front the Army Group of the Archduke Joseph should take the offensive in the Carpathians, with the object of preventing Rumanian troops from being shifted to the south. The Archduke met in these mountains the same troops which had unfalteringly faced for three months in 1916 the German attacks in the Prahova valley—the veterans of the Rumanian Army. They had already resisted the most fierce of German attacks, and, only a few weeks before, had given at Marashti proofs of their capacity.

The enemy had again the advantage of superiority of numbers, and for some days the situation was certainly most critical, as the Târgu-Ocna railway was threatened. The main objective of the enemy was to cut the railway line which, since the occupation by the enemy of the Prahova valley, in 1916, supplied Rumania with all its coal, oil and salt, from the Târgu-Ocna region. To oppose the eight Austro-German divisions of the Archduke, General Averescu had at his disposal at the beginning only five divisions. The Austro-Germans started their operations on August 10, with a demonstration against the Russian troops which formed the right flank of the Rumanian army in the Trotus valley. The main attack, however, was directed against the Rumanians in the mountainous region between the Trotus and the Putna.

The Austro-German attacks were very violent and made with the usual careful and methodical preparation. Artillery fire of all calibres, lachrymatory and asphyxiating gases, nothing was wanting to make a success of this attack. Between the 10th and the 13th, the battle raged violently on the whole front

from the Trotus to the Putna. The main attack of the enemy was directed against the village of Grozeshti, which was the scene of the fiercest fighting. This village was of considerable strategic importance, being situated on the main road towards the railway line Târgu-Ocna-Oneshti-Adjud. The village was captured by the Austrians, but by stubborn counter-attacks the Rumanians were able to keep the northern part of it, thus thwarting the advance towards the Târgu-Ocna railway.

The offensive of the Second Army in July had brought Rumania gains which were now only of sentimental importance, while strategically, owing to the extension of the front, they were a great disadvantage. Meantime Averescu's reserves were practically exhausted by the continual counter-attacks. He decided on August 14 to withdraw his troops from north of Soveia to the shorter line Câmpurile-Mânastirea-Voloscani, and gained thus a whole division as a reserve. In the first stage of the battle for Târgu-Ocna the Second Army, though inferior in number, was able to hold its own, only by continual counter-attacks. The bulk of the enemy's forces consisted at the beginning of the offensive of Austrian troops, which had not the stubbornness of the Germans. When, after the occupation of a position, they were counter-attacked, they offered only a slight resistance and fled to their entrenched positions, under the protection of the artillery.

In connexion with the last big thrust of Mackensen towards Adjud, the Archduke Joseph's army, reinforced by German units, renewed its efforts on August 16. The main attacks were delivered in the region of Slanic (six miles south of Târgu-Ocna), and against the glass factory which dominates that town. The attacks were led with much determination by German battalions, but the Rumanians were defending the ground inch by inch with the utmost energy, knowing that every yard lost meant a step towards an irretrievable defeat. August 19 was the most critical day, the reserves of the Second Army being completely exhausted. The enemy succeeded in occupying the glass factory, and was progressing rapidly. The Rumanian troops were overwhelmed by superior numbers. The reinforcements — two divisions — which General Averescu received a few days before, were scattered about, because, at the last moment, these troops had to replace five Russian divisions on the flanks, which proved unreliable and were withdrawn. In these critical circumstances, two regiments—the Frontier Guards and the newly created Alpine Regiment—arrived by forced marches through pathways in the mountains. Without being given any rest they were launched against the enemy, who was not aware of the arrival of these fresh troops. In a determined attack, in which the Frontier Guards lost more than three-quarters of their effectives, they recaptured important positions round the glass factory, and kept them in spite of the repeated

GERMAN PRISONERS IN THE CAMP OF RACACIUNI.

attacks of the enemies, thus re-establishing the situation. The Rumanian Headquarters estimated the enemy's casualties during the 10 days' offensive at over 8,000.

The enemy's offensive on the Carpathian front slackened after August 20, when Mackensen gave up the offensive against the Allies on the Sereth front. After that date all the operations conducted by the Germans and Austrians in Rumania were only local. Many of them were led with much persistence, but none showed the character of a great offensive with the determined intention of piercing the front, as had been the case in the operations conducted by the enemy between August 6 and 20.

An illustration of an important action, but only of a local character, was the German attack in the region of Muncelui, held by a Siberian division. Two of the regiments having fled during the bombardment, the rest of the division followed their example as soon as the enemy's helmets were seen. This episode was related by the German *communiqué* as follows:

ARMY GROUP OF MACKENSEN.—The fighting success of the 28th, in the mountains north-west of Focshani, was yesterday extended. The powerful thrust by our tried attacking troops threw the stubbornly resisting enemy out of Ireshti, and pressed him back over the heights north of the village in the direction of the Susitza valley.

The situation was immediately re-established by the timely intervention of the Ninth Rumanian Division, which was at the moment of the attack in reserve, resting after the heavy losses suffered at Marasheshti. This division, although it had not completed its reorganization, intervened and checked the further progress of the German troops.

The strong local attacks made by the enemy from August 20 onwards were intended to keep the Rumanian troops engaged on the whole front, and in the meantime to keep the initiative to the Austro-German troops, but from that date on the Austrians began to withdraw troops to the Italian front.

The position of the Second Army remained very precarious, for the slightest loss of ground endangered the whole situation. In order to remedy this position, General Averescu planned to recapture the important positions round Târgu-Ocna, which had been in the enemy's hands since August 19. On September 9 the Rumanians began the attack, and succeeded in capturing a few important positions, together with the village of Slanic, but the enemy, being reinforced before the Rumanians had time to organize the captured ground, compelled them to abandon the temporary gain, and to withdraw to their original positions.

This was the last effort of the Rumanian Army, and also the last serious engagement on the whole Rumanian front.

FIELD-MARSHAL VON MACKENSEN.
Commanded the Austro-German forces against Rumania.

From the second half of September, the main effort of the Germans was to demoralize the Rumanian soldiers in the same way as they had demoralized the Russians. A systematic propaganda was organized for the Rumanian troops. Pamphlets, letters from relatives, proclamations from the high clergy who remained behind in the occupied territory, were spread among the Rumanian peasant soldiers, in order to break their faith in their chiefs and in their allies. Special detachments were sent out from the German trenches to try and fraternize with the Rumanian soldiers. But these special detachments were always warned by their chiefs that "the Rumanians are very treacherous. They let

THE KING DECORATES SOLDIERS AT THE FRONT.

the Germans come near their lines, and then fire at them from a short distance. Therefore the greatest prudence is recommended to the men going out to fraternize with the Rumanian soldiers." (From an Order of the Day, found on a German officer made prisoner on the Lower Sereth.) Every day at 5 p.m. the German trench mortars used to fire across to the Rumanian lines newspapers printed in Bukarest, in which the King and the Government were abused, and the Allies represented as traitors to the Rumanian cause, who, after having failed to give the necessary support to the Rumanian Army in the early stage of the war, were now ready to abandon the country. But nothing, neither the German propaganda nor the example of Russian "freedom," could induce the simple Rumanian soldier to follow in the footsteps of the Russian ally. The *moral* and discipline of the Rumanian troops remained unshaken to the last. While on the flanks the Russians were fraternising with the enemy, drinking beer brought by the Germans, and eating fowls requisitioned by the Russians, the German fraternizing parties were invariably received with rifle fire by the Rumanians. During the armistice even, whenever the enemies passed over the neutral zone, they were arrested by the sentries and held as prisoners of war.

The relations between the Russian and Rumanian Armies were never very good Naturally a good deal of cordiality and politeness was displayed by the commanding officers of both armies, but the bulk of the Russian Army treated the Rumanian Army at the beginning of the war with a certain amount of contempt. When Rumanian soldiers, after the defeat, tried to approach their Russian comrades in a friendly way, calling them *aliat* (allied) they replied very significantly: "*Niet aliat, prtector!*" (Not ally, protector). The relations between the two allies became more strained in the winter of 1916, after the Rumanian disaster, when the Russian General Staff sent to Rumania 15 cavalry divisions, which sucked the country dry, and treated the civilian population in such a way that the peasants did not know whether they were friends or enemies. On the other hand the Rumanians accused the Russians of failing to send reinforcements in time and of not supporting the Rumanian action in the Wallachian plain, and consequently of being to blame for the Rumanian defeat; while the Russians accused the Rumanians for having mismanaged everything and yielded too easily to the enemy's pressure.

After the outbreak of the Revolution the Russian Army in Rumania changed its attitude towards the peasant soldiers, and tried to induce them to follow their example, by deposing the king and taking by force the land from the landowners. The Russian soldiers showed much willingness to give a hand to the Rumanians, and moreover they decided to start the revolutionary movement, in order to show the Rumanians "how to do it." The end of April and May, 1917, were troublesome months for the Rumanian Government, for the Russians tried to interfere in the internal affairs of the country, and rumours were spread that they were trying to capture the king. Nothing very important happened: only a few more or less noisy meetings at

Jassy, which ended with the liberation, by the Russian troops, of the Pro-German agent and Socialist, Dr. Rakhovsky, who was under custody, being charged with communicating with the enemy.

Until the fall of the Kerensky Government, the commander of the Russian Armies in Rumania, General Shtcherbatcheff, had a certain amount of authority, and had the bulk of his troops fairly well in hand. Had he been more energetic and stopped the daily meetings and the insidious speeches at the front, he might have saved the Russian Army in Rumania. Until the end of July the great bulk of the army, though not very willing to fight, was still reliable under energetic commanders. The situation turned to tragedy after the Galician disaster and the coming into power of the Bolshevists. The soldiers were leaving the trenches in masses, taking their arms and ammunition, which they sold on the way home for a few glasses of brandy or a few roubles. The whole equipment of the army was considered the private property of every Russian soldier. The motor-car drivers, considering the army cars as their own, inaugurated trips from Jassy to different parts of Rumania for sums varying between 100 and 500 lei (£5 and £20). As it frequently happened that before the end of the journey they robbed or killed their passengers, the Rumanian authorities prohibited these trips. Then the Russians sold their American or British cars for ridiculous sums. Gunners used to sell their guns, and horsemen their horses, to the highest bidder. Four guns were sold one day to the priest of a Rumanian village for 800 lei. The priest naturally asked the Rumanian military authorities to come and take them over. The situation became very serious in November, 1917, when the Russian soldiery began to plunder all the villages through which they passed. Rumanian divisions had to be withdrawn from the front and sent to protect the country against its own allies. Sometimes, when the pillaging soldiery was in force, they attacked towns, for example, Botoshani and Dorohoi, where regular fighting took place between the Rumanian battalion defending the town and some 5,000 Russians. Machine-guns and artillery were used on both sides, but naturally the Russians, having no officers to lead them,

GENERAL BERTHELOT PRESENTING DECORATIONS TO RUMANIAN OFFICERS AT CÂMPURILE.

WINTER IN THE CARPATHIANS: CLEARING SNOW FROM THE TRENCHES.

were beaten, and took flight towards the Pruth. Many casualties were counted on both sides.

The officers completely lost control over their men; a few, who tried to re-establish order, especially among the Cossacks, were massacred by their men, while the rest, abandoning all hope, fled to towns, placing themselves under the protection of the Rumanian authorities, who had to withdraw three divisions from the front to keep order. The consequences of the dissolution of the Russian Armies were fatal to Rumania. At the end of December, 1917, hardly 60,000 men were left in the trenches; thus, the front which was held previously by some 500,000 Russians and 250,000 Rumanians, had to be held now only by the Rumanians, whose numbers had also considerably diminished through the heavy losses suffered during the July and August actions. Such was the situation of the Rumanian Army at the end of the year 1917, a few months before the conclusion of "peace."

CHAPTER CCL.

THE "PEACE" OF BUKAREST.

PEACE NEGOTIATIONS—RESIGNATION OF THE BRATIANU CABINET—GENERAL AVERESCU FORMS A MINISTRY—GERMAN DEMANDS—THE MARGHILOMAN GOVERNMENT—PEACE SIGNED AT BUKAREST—TERRITORIAL AND ECONOMIC EXTORTIONS—THE PETROLEUM AGREEMENT—ENEMY CONTROL OF THE DANUBE—BESSARABIA REUNITED WITH RUMANIA—THE QUESTION OF THE DYNASTY—VON KÜHLMANN ON THE PEACE TREATY—IMPEACHMENT OF THE BRATIANU CABINET PROPOSED—FAMINE AND PESTILENCE—FINANCIAL AND SOCIAL CONDITIONS—THE MARTYRDOM OF RUMANIA.

WHEN, at the beginning of December, 1917, the Russian armistice was signed, Rumania was compelled by the joint threats of Germany and the Soviets of the Rumanian front to adhere to it. From that day the Russian troops began to leave the trenches wholesale, and by the end of January, 1918, only such Siberian and other troops remained as found it more convenient to spend their time in Rumania than to return to their own place. Money was easy to raise by selling to the highest bidder, Austrian or Rumanian, rifles, guns, motor-cars and other equipment. The disappearance of the Russians was followed by an almost comic interlude during which an attempt was made on behalf of Rumania to recruit reinforcements in the Ukraine. For a season the streets of Jassy were daily paraded by groups of boys, none of them seemingly over the age of 16, armed with rifles with fixed bayonets, a pistol, a sword and a dagger. They all wore spurs, though none of them had a horse. It was not long before the most enthusiastic dreamers realized that Rumania had been tricked by the Ukrainians and the toy soldiers were withdrawn from circulation.

During January, 1918, the Rumanian Government decided, on political and military grounds, to occupy Bessarabia. This operation required a considerable force. Thus at the beginning of February the same front which had been held in November, 1917, by over 500,000 men was occupied by barely 120,000. Army supplies were getting shorter every day; and Rumania, who had suddenly drifted into a state of war with the Bolshevist Government of Russia, found herself completely cut off from the rest of her Allies. Of this desperate situation the Germans were not slow to take advantage.

Shortly after the signature of the Peace Treaty between the Central Powers and the Ukraine at Brest-Litovsk, Rumanian Headquarters received an intimation from German Headquarters on the Rumanian Front to the effect that peace with Russia was being concluded, that the Rumanian armistice had come to an end, and that delegates should be sent without delay to Focshani in order to examine the new situation. Rumanian delegates were accordingly dispatched to German Headquarters the following day. There they were received with such insolence that the Chief of the Rumanian General Staff, General Lupescu, threatened to leave immediately. The preliminary discussions, however, did not last very long and the mission came back with the announcement that Rumania was within four days to decide whether or not she would agree to treat for peace with the Central Powers. A Crown

CONQUERED RUMANIA: RUMANIAN PRISONERS MARCHING THROUGH BUKAREST.

Council was held and the majority of the generals declared that the army would be able to resist at most for a month, if hostilities were resumed. M. Bratianu and M. Take Jonescu, who would not consent to make peace with the enemy, resigned. Both these statesmen favoured further resistance. M. Jonescu, indeed, as early as the beginning of January had urged that, if the worst came to the worst, the Rumanian Army should fall back into Russian territory and take its chances. King Ferdinand summoned General Averescu, the most successful general in Rumania, to form a new Cabinet. Meanwhile the King received an intimation from Berlin warning him that the Central Powers would not discuss peace terms with a Cabinet that included M. Bratianu or any member of the outgoing Ministry. The King returned a dignified reply to this demand, but General Averescu ultimately formed without the co-operation of M. Bratianu or of his former colleagues a Government upon which devolved the tragic task of concluding peace, and thus of bringing to naught, at any rate for a time, all the tremendous efforts that Rumania had exerted during the preceding half century to achieve for herself, economically and politically, full independence and free development.

On March 5, at Buftea, the following preliminary declaration was signed by representatives of Rumania and of the Central Powers :—

Animated by a common desire to terminate the state of war and to restore peace between Germany, Austria-Hungary, Bulgaria, and Turkey of the one part, and Rumania of the other part, the signatories (namely, Germany's Plenipotentiary, Herr von Kühlmann; Austria-Hungary's, Count Czernin; Bulgaria's, the Vice-President of the Sobranye, Dr. Momtchiloff; and Turkey's, Talaat Pasha, of the one part; and Rumania's Plenipotentiary, M. Argetoianu, of the other part), after an examination of their full powers, have agreed that the Armistice Treaty, signed at Focshani on December 9, 1917, having been denounced on March 2, and having expired on March 5, 1918, at 12 noon, a 14 days' truce is to run from midnight, March 5, 1918, with a period of three days for its denunciation. Complete agreement exists between the signatories that a final peace is to be concluded within this period on the basis of the following agreement :—

I.—Rumania cedes to the allied Powers the Dobrudja as far as the Danube.

II.—The Powers of the Quadruple Alliance shall provide for the maintenance of a trade route for Rumania, *via* Constanza, to the Black Sea.

III.—The frontier rectifications demanded by Austria-Hungary on the Austro-Hungarian-Rumanian frontier are accepted in principle by Rumania.

IV.—The economic measures corresponding to the situation are likewise conceded in principle.

V.—The Rumanian Government undertakes to demobilize immediately at least eight Divisions of the

THE OCCUPATION OF RUMANIA: FIELD-MARSHAL VON MACKENSEN LEAVING THE GERMAN PROTESTANT CHURCH, BUKAREST, AFTER A THANKSGIVING SERVICE FOR HIS VICTORY.

(From a German paper.

GENERAL AVERESCU (in centre) ON HIS WAY TO MEET MACKENSEN AT BUKAREST.

Rumanian Army. The control of the demobilization will be undertaken jointly by the Higher Command of Field-Marshal von Mackensen's Army Group and the Rumanian Chief Army Command.

As soon as peace is restored between Russia and Rumania the remaining part of the Rumanian Army will also demobilize, in so far as troops are not required to maintain security on the Russo-Rumanian frontier.

VI.—Rumanian troops must immediately evacuate the territory of the Austro-Hungarian Monarchy occupied by them.

VII.—The Rumanian Government undertakes to support with all its power the railway transport of troops of the allied Powers through Moldavia and Bessarabia to Odessa.

VIII.—Rumania undertakes immediately to dismiss officers of Powers which are at war with the Quadruple Alliance who are still in Rumanian service. A safe conduct is assured to these officers by the Quadruple Alliance.

This treaty enters into operation immediately.

When General Averescu accepted the Premiership and with it the hard necessity of acquiescing in the enemy's humiliating terms, this veteran soldier, who had fought in the ranks forty years earlier in the war which gave the Dobrudja to Rumania, was moved by the conviction that the sacrifice demanded was inevitable if the nation was to save itself alive. He reflected that, if Rumania were to refuse the German conditions, she might be able to resist for another month, but the results would be fatal. A month later she might have to surrender even the shadow of independence, whereupon the Germans would deal with her as they had already dealt with Belgium and with occupied France The whole Rumanian Army would be made prisoner or else forced to evacuate Moldavia and retire into an unfriendly Russia, while the civilian population would be compelled to labour in ammunition and other factories for the enemy.

General Averescu realized from the very beginning that Rumania was at the mercy of an unscrupulous enemy. The only point on which he took a strong line was the question of the ammunition and guns which Rumania had received from the Allies. The Germans were told that these must remain in Rumanian hands; otherwise the Rumanian Army would resist long enough to allow of the destruction of this material. The Germans made a small concession on this point, but on no other. Indeed, the so-called peace negotiations were never anything more than the merest pretence, for the Germans allowed no discussion at all. They simply laid their preliminary conditions before the Rumanian delegates and, taking advantage of the military helplessness of Rumania, intimated that their terms were *à prendre ou à laisser*. Eight divisions, out of a total eighteen, of the Rumanian Army were to be demobilized before the enemy would consent to treat. Rumania had to begin by surrendering her sword. The Rumanian delegates made a few attempts to discuss the enemy's terms, but they soon found that protest was useless and that the only thing to do was to yield

The truth of the matter was that Rumania had to satisfy three voracious enemies. Each had its own profit in view, but in every case the result for Rumania was to aggravate her subjection to the German yoke. The Bulgarians were eager to achieve their ideal of a "Great Bulgaria" by the annexation of the Dobrudja. The Austrians demanded the surrender of the Carpathian Passes—a condition that was urged by Count Czernin, who remembered with bitterness the rebuff to which, as Austro-Hungarian Minister at Bukarest, he had had to submit at the hands of the Rumanian King and Government at the time when Rumania came into the war. The Germans for their part were determined to seize for themselves the immensely rich oil-fields of Rumania and to secure for an unlimited period Rumanian corn for Germany at a price to be fixed by the German authorities. For years Germany had striven to gain control of the Rumanian oil-fields. Where bribes and the offer of a heavy price had failed, the fortune of war now promised success. As usual, Germany's allies had to surrender some of their own portion of the spoil for her benefit. Thus Germany succeeded in setting up a *condominium* over the most important part of the Dobrudja, whereby she secured for herself at the same time the control of the Câmpina-Constanza oil pipe-line.

As for the corn supply, the Germans, who had had to pay a heavy price for Rumanian grain before Rumania went to war, owing

[*French official photograph.*

GENERAL BERTHELOT,
Chief of the French Military Mission in Rumania.

especially to British competition, were particularly careful to insure themselves against the recurrence of such a conjuncture. By the studied form of the agreement dictated to

FRENCH OFFICERS ON THE RUMANIAN FRONT.

M. MARGHILOMAN,
Appointed Prime Minister of Rumania, March, 1918.

Rumania, the surplus grain was to go to Germany after Rumanian needs had been satisfied. What these needs were was to be decided by a Rumanian commission under German control.

Having secured these territorial and economic advantages, Germany proceeded to add humiliation to the heavy toll of material loss. The eight Rumanian Divisions holding the Rumanian front were to be demobilized immediately under the control of German Staff officers. Finally, the Germans demanded the requisite facilities for a German force to pass through Rumania to Odessa. As a matter of fact, already on March 10, long before the peace conditions were settled, the first German battalion passed through Galatz on its way to the Ukraine.

In piling up their exactions the Germans were doubtless inspired by the hope that these might ultimately compel the Averescu Cabinet, which they suspected of being pro-Ally, to resign. This expectation was realized. After a Cabinet Council at Jassy on March 12, when the political situation was fully discussed, General Averescu tendered to King Ferdinand the resignation of his Cabinet. At the direct instigation of the Central Powers, M. Marghiloman, the former Finance Minister, was thereupon summoned from Bukarest to Jassy and was invited to form a new Administration. Although the new Prime Minister was in some quarters reputed to be only superficially well-disposed towards the Germans, he had since 1915 pursued what was in effect a pro-German policy and, together with the majority of the politicians who joined his Cabinet, he had remained during the invasion in the occupied territory, on excellent terms with the enemy.

The interruption of the negotiations in con-

CÂMPINA AND THE OILFIELD OF THE PRAHOVA VALLEY.

sequence of the formation of the new Cabinet prolonged the Bukarest Conference until March 26, when the most important political, territorial and military stipulations of the Peace Treaty were initialled. An extensive legal and political supplementary Treaty was likewise initialled, and the basis of an agreement on the oil question was also signed. If M. Marghiloman's appointment was designed to secure less onerous terms, it failed to fulfil its purpose, since no indication—beyond his own assertions—could be found of his having obtained the slightest mitigation or abatement. A more iniquitous Treaty than the so-called Peace of Bukarest has never been signed. But the alternative involved by prolonged resistance was difficult to entertain. All the Allied advisers counselled acceptance, with the exception of General Berthelot, the spirited chief of the French military mission, who returned to France, where he was destined to play a leading part in the Second Battle of the Marne.

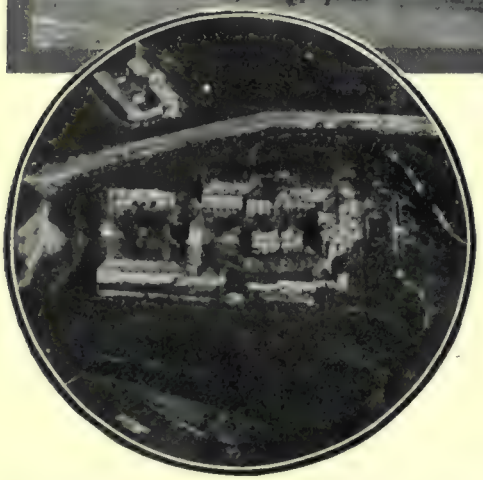
THE QUEEN OF RUMANIA AND GENERAL AVERESCU AT A REVIEW.

It was May 7 before the Bukarest conference could hold its final sitting at Cotroceni Castle, in the same room, as the German Government proudly announced, in which Rumania's entry into the war had been decided. Among the principal delegates present were for Germany: Herr von Kühlmann, the Foreign Secretary; Herr von Körner; Herr Kriege; Major-General Hell; and Captain Bene, of the German Navy; for Austria-Hungary: Count Burian, still a Baron at that time, in the room of Count Czernin, whose star was already on the wane; for Bulgaria: the Premier, M. Radoslavoff; the Finance Minister, M. Tontcheff; and General Tantiloff; for Rumania: the Premier, M. Marghiloman; the Foreign Minister, M. Arion; and two other Ministers, MM. Papiniu and Burghele; for Turkey: the Foreign Minister, Nessimi Bey, and his Under-Secretary, Rechad Hikmet Bey, and General Izzet Pasha.

The sitting was opened at 11 a.m. by Herr von Kühlmann, with a short address in which he said:—

GENTLEMEN,—After prolonged and laborious negotiations it has been possible to bring about peace between the allied Central Powers and the Kingdom of Rumania. With this peace the war in the East, as far as the Central Powers are concerned, has come to an end. We hope that the provisions of this peace will not only take full account of the political and economic requirements of the Central Powers, but that they will also enable the Kingdom of Rumania, in co-operation with the Central Powers, to heal the wounds inflicted by the war.

COTROCENI CASTLE, BUKAREST.



COTROCENI CASTLE AS SEEN FROM THE AIR.

The brief ceremony of signing the Treaty was concluded shortly before noon.

The Emperor William lost no time in launching a series of telegrams, couched in the most flamboyant terms, to Marshal von Hindenburg—who received the honorific distinction of having his name bestowed upon the main gateway of the Teutonic robber stronghold of Marienburg—to the Imperial Chancellor, Count Hertling, who was complimented on his "statecraft," and to Herr von Kühlmann, who, having exposed himself to gossip by his mode of life in Bukarest, had to content himself with the minor decoration of the Prussian Crown.

The following were the principal provisions of the eight paragraphs of the Main Treaty :—

Paragraph I. deals with the re-establishment of peace and friendship.

ARTICLE I.—Germany, Austria-Hungary, Bulgaria, and Turkey on the one hand, and Rumania on the other, declare the state of war to be ended. The contracting parties are determined henceforth to live together in peace and friendship.

ARTICLE II.—Diplomatic and consular relations between the contracting parties will be resumed immediately after the ratification of the Peace Treaty. The admission of Consuls will be reserved for a further agreement.

Paragraph II. deals with the demobilization of the Rumanian forces.

ARTICLE III.—The demobilization of the Rumanian Army, which is now proceeding, will immediately after the Peace Treaty has been signed be carried out according to the prescriptions contained in Articles IV. to VII.

ARTICLE IV.—The regular military bureaux, the supreme military authorities, and all military institutions will remain in existence as provided by the last Peace Budget. The demobilization of Divisions 11 to 15 will be continued as stipulated in the Treaty of Focshani, signed on March 8, 1918. Of the Rumanian Divisions 1 to 10 the two infantry divisions now employed in Bessarabia, including the Jäger battalions which are remnants of the dissolved Jäger divisions, and including two cavalry divisions of the Rumanian Army, will remain on a war footing until the danger arising from the military operations now being carried on in the Ukraine by the Central Powers ceases to exist. The remaining eight divisions, including their staffs and supreme authorities, shall be maintained in Moldavia at a reduced peace strength. Each division will be composed of four infantry regiments (three battalions each), two cavalry regiments (four squadrons each), two field artillery regiments (seven batteries each), one pioneer battalion, and the necessary technical troops and transport corps, the strength of which is to be fixed by further agreement. The total number of infantry in these eight divisions shall not exceed 20,000 men, the total number of cavalry shall not exceed 3,200, and the entire artillery of the Rumanian Army, apart from those divisions remaining mobilized, shall not exceed 9,000 men.

The divisions remaining mobilized in Bessarabia must

in case of demobilization be reduced to the same peace standard as that of the eight divisions mentioned in Article IV.

All other Rumanian troops which did not exist in peace time will at the end of their term of active military service remain as in peace time. Reservists, including men of the Calarash regiments, shall not be called up for training until a general peace has been concluded.

GERMAN MILITARY CONTROL.

ARTICLE V.—Guns, machine-guns, small arms, parks of horses, cars, and ammunitions which are available owing to the reduction or dissolution of Rumanian units shall be given into the custody of the supreme command of the allied forces in occupied Rumania until the conclusion of a general peace. They shall be guarded and superintended by Rumanian troops under the supervision of the allied Chief Command. The amount of ammunition to be left to the Rumanian Army in Moldavia is fixed at 250 rounds for each rifle, 2,500 for each machine-gun and 150 for each gun.

The Rumanian Army is entitled to exchange unserviceable material at the depots of the occupied region in agreement with the Supreme Command of the allied forces, and to demand from the munition depots the equivalent of ammunition already spent. The divisions in Rumania which remain mobilized will receive their ammunition requirements on a war basis.

ARTICLE VI.—Demobilized Rumanian troops are to remain in Moldavia until the evacuation of the occupied Rumanian regions. Excepted from this provision are the military bureaux and men mentioned in Article V., who are required for the supervision of the arms laid down and the material laid down in these regions. Men and reserve officers who have been demobilized can return to the occupied regions. Active and formerly active officers require in order to return to these regions the permission of the Chief Army Command of the allied forces.

ARTICLE VII.—A General Staff officer of the allied Powers with a Staff will be attached to the Rumanian Commander-in-Chief in Moldavia, and a Rumanian General Staff officer with a Staff will be attached as *liaison* officer to the Chief Command of the allied forces in the occupied Rumanian districts.

ARTICLE VIII.—The Rumanian naval forces will be left to their full complement and equipment, in so far as their crews, in accordance with Article IX., are not to be limited until affairs in Bessarabia are cleared up, whereupon these forces are to be brought to the usual peace standard. Excepted herefrom are the river forces required for purposes of the river police and the naval forces on the Black Sea employed for the protection of maritime traffic and the restoration of mine-free fairways. Immediately after the signature of the Peace Treaty these river forces will, on the basis of a special arrangement, be placed at the disposal of the authorities entrusted with the river police

THE ROOM IN WHICH THE PEACE OF BUKAREST WAS SIGNED.
The Golden Reception Room in Cotroceni Castle.

The nautical Black Sea Commission will receive the right of disposing of the naval forces, and a Rumanian naval officer is to be attached to this Commission in order to restore connexion therewith.

ARTICLE IX.—All men serving in the Army and Navy who in peace time were employed in connexion with harbours or shipping shall on demobilization be the first to be dismissed, in order that they may find employment in their former occupation.

CESSIONS OF TERRITORY.

Paragraph III. of the Treaty deals in Articles X., XI. and XII. with cessions of territory.

ARTICLE X.—With regard to the Dobrudja, which, according to Paragraph I. of the peace preliminaries, is to be ceded by Rumania, the following stipulations are laid down :—

1. Rumania cedes again to Bulgaria, with frontier rectifications, the Bulgarian territory that fell to her by virtue of the Peace Treaty concluded at Bukarest in

1913. [Here is attached a map showing the exact extent of the frontier rectification. It forms an essential part of the Peace Treaty.] A Commission composed of representatives of the allied Powers shall shortly after the signature of the Peace Treaty lay down and demarcate on the spot the new frontier line in the Dobrudja. The Danube frontier between the regions ceded to Bulgaria and Rumania follows the river valley. Directly after the signature of the Peace Treaty further particulars shall be decided upon regarding the definition of the valley. This demarcation shall take place in the autumn of 1918 at low-water level.

2. Rumania cedes to the allied Powers a portion of the Dobrudja up to the Danube north of the new frontier line described under Section I. That is to say, between the confluence of the stream and the Black Sea to the St. George branch of the river. The Danube frontier between the territory ceded to the allied Powers and Rumania will be formed by the river valley. The allied Powers will undertake that Rumania shall receive an assured trade route to the Black Sea, *via* Tchernavoda and Constanza.

ARTICLE XI.—Rumania agrees that her frontiers shall undergo rectification in favour of Austria-Hungary. [Here follows new frontier demarcation shown on the map.] Two mixed commissions, to be composed of equal numbers of representatives of the Powers concerned, are immediately after the ratification of the Peace Treaty to fix the new frontier line on the spot.

ARTICLE XII.—State property in the ceded regions of Rumania passes without indemnification to the States which acquire these regions. Those States to which the ceded territories fall shall make agreements with Rumania on the following points :—

1. With regard to the allegiance of Rumanian inhabitants of these regions, a matter in which they are to be accorded the right of option.

2. With regard to the property of communes split by the new frontiers.

3 and 4. With regard to administrative and juridical matters.

5. With regard to the effect of changes of territory on dioceses.

Paragraph IV. deals with war indemnities.

ARTICLE XIII.—The contracting parties mutually renounce the indemnification of their war costs. Special arrangements are to be made with regard to the settlement of damages caused by the war.

Paragraph V. relates to the prescriptions regarding the evacuation of the occupied territories in Articles 14 to 24.

It is provided that occupied Rumanian territories shall be evacuated at times to be later agreed upon. The strength of the army of occupation shall, apart from formations employed in economic functions, not surpass six divisions. Until the ratification of the Peace Treaty the present occupation administration continues its existence, but immediately after the signature of the Peace Treaty the Rumanian Government has power to supplement the corps of officials by such appointments or dismissals as may seem good to it. Up to the time of evacuation a civil official of the occupation administration shall always be attached to the Rumanian Ministry in order to facilitate as far as possible the transfer of the civil administration to the Rumanian authorities. The Rumanian authorities must follow the directions which the commanders of the army of occupation consider requisite in the interest of the security of the occupied territory as well as the security, maintenance and distribution of their troops.

[*From a German print.*

THE SIGNING OF THE PEACE TREATY AT BUKAREST.

Seated at the table, left to right: Nessimi Bey (Turkey), Count Burian (Austria-Hungary), Herr Von Kühlmann (Germany), M. Radoslavoff (Bulgaria).

For the present, railways, posts, and telegraphs will remain under military administration, and will, in accordance with proper agreements, be at the disposal of the authorities and population.

As a general rule, the Rumanian Courts will resume the jurisdiction in the occupied territories to their full extent. The allied Powers will retain jurisdiction as well as power of police supervision over those belonging to the army of occupation. Punishable acts against the army of occupation will be judged by its military tribunals, as also offences against the orders of the occupation administration.

Persons can only return to occupied territories in proportion as the Rumanian Government provides for their security and maintenance.

The army of occupation's right to requisition is restricted to corn, peas, beans, fodder, wool, cattle, and meat from the produce of 1918, and further to timber, oil, and oil products, always observing a proper regard for an orderly plan of procuring these commodities, as well as satisfying the home needs of Rumania.

From the ratification of the Peace Treaty onwards the

army of occupation shall be maintained at the expense of Rumania.

A separate agreement will be made with regard to the details of the transfer of the civil administration, as well as with regard to the withdrawal of the regulations of the occupation administration.

Money spent by the allied Powers in the occupied territories on public works, including industrial undertakings, shall be made good on their transfer. Until evacuation these undertakings shall remain under the military administration.

DANUBE REGULATIONS.

Paragraph VI. deals with the regulation of the navigation of the Danube.

ARTICLE XXIV.—Rumania shall conclude a new Danube Navigation Act with Germany, Austria-Hungary, Bulgaria, and Turkey, regulating the legal position on the Danube from the point where it becomes navigable, with due regard to the prescriptions subsequently set forth under Sections A to D, and on condition that the prescriptions under Section B shall apply equally for all parties to the Danube Act. Negotiations regarding the new Danube Navigation Act shall begin in Munich as soon as possible after the ratification of the Peace Treaty.

HERR VON KÜHLMANN,
German Foreign Secretary.
Represented Germany at the Peace Conference.

BARON BURIAN,
Represented Austria-Hungary at the Peace Conference.

A.—Under the name "Danube Mouth Commission," the European Danube Commission shall, under conditions subsequently set forth, be maintained as a permanent institution in the powers, privileges, and obligations hitherto appertaining to it for the river from Braila downwards, inclusive of this port. The conditions referred to provide *inter alia* that the Commission shall henceforth only comprise representatives of the States situated on the Danube, or the European coasts of the Black Sea. The Commission's authority extends from Braila downwards to the whole of the arms and mouths of the Danube and the adjoining parts of the Black Sea.

B.—Rumania guarantees to the ships of the other contracting parties free navigation on the Rumanian Danube, including harbours. Rumania shall also levy no tolls on the ships or rafts of the contracting parties and their cargoes merely for the navigation of the river. Neither shall Rumania in future levy on the river any tolls save those permitted by the new Danube Navigation Act.

Section C.—The Rumanian *ad valorem* duty of one-half per cent. on goods imported into and exported from that country's ports will be abolished at the latest five years after the ratification of the treaty.

Section D.—This section refers to the [? control of] certain sections of the Danube by Austria-Hungary.

ARTICLE XXV.—This Article relates to the property of the European Danube Commission in Rumania's possession.

ARTICLE XXVI.—Germany, Austria-Hungary, Bulgaria, Turkey, and Rumania have the right to maintain warships on the Danube. These may navigate down stream as far as the sea and up stream as far as the upper frontier of the ship's territory. They must not, however, enter into intercourse with the shore of another State or put in there except in case of *force majeure*, or unless the consent of the State in question be obtained through diplomatic channels. The Powers represented on the Danube Mouth Commission have the right to maintain two light warships each as guardships at the mouth of the Danube.

A BOMBARDED RAILWAY DEPÔT.

Paragraph VII. deals with equal rights for the religious denominations in Rumania.

ARTICLE XXVII.—The same freedom and the same protection of the law and the authorities will be accorded in Rumania to the Roman Catholics, the Greek Uniate, the Bulgarian Orthodox, the Protestant, the Moslem, and the Jewish religions, as to the Rumanian Orthodox Church. They shall have the right to establish private schools. In all public and private schools the pupils may only be compelled to receive religious instruction from a qualified teacher of their own religion.

ARTICLE XXVIII.—The diversity of religious belief shall not exercise any influence on the legal position of the inhabitants, and especially their political and civil rights. The principle laid down in Paragraph I. is also to be applied to persons in Rumania having no nationality (*Staatslosen*), including Jews hitherto regarded there as foreigners. For this purpose until the ratification of the Peace Treaty a decree will be proclaimed whereby all persons having no nationality who participated in the war or who were born in and reside in the country and descend from parents born there are to be immediately regarded as Rumanian subjects with full rights.

Paragraph VIII.—Final stipulations.

ARTICLES XXIX., XXX. and XXXI.—The economic relations between the allied Powers and Rumania shall be regulated by separate treaties to come into force at the same time as the Peace Treaty. The same applies to the restoration of public and private legal relations, the exchange of prisoners of war, interned civilians, etc.

The instruments of ratification shall be exchanged in Vienna as soon as possible and the Peace Treaty shall come into force on its ratification.

The following were the principal provisions of the German and Rumanian legal and political Supplementary Treaty, which in Clause II. made the iniquitous stipulation with regard to the payment by Rumania of a disguised indemnity:

CLAUSE I.—This provides for the resumption of consular relations and the admission of Consuls. The treaty demands that a further consular treaty shall be concluded as soon as possible, and stipulates for the indemnification of all damage suffered during the war by consular officials or done to consular buildings.

CLAUSE II.—This clause says that Rumania renounces indemnifications and damages caused on Rumanian territory as the result of German military measures, including all requisitions and contributions. Amounts which Germany has already paid for damages of the nature just described will be refunded by Rumania in so far as these have not been refunded from the country's means, or paid in the newly issued notes of the Banca Generale of Rumania (note issue department).

Within six months after the ratification of the Peace Treaty Rumania will redeem out of her own means (with notes of the Rumanian National Bank, or other legal means of payment) the notes issued by the Banca Generale, on the order of the occupation administration, and will not put them into circulation again, so that the balances and deposits which are held by the German Reichsbank for the covering of the same may become free.

Until redemption the notes of the Banca Generale shall be recognized as legal tender. After the ratification of the Peace Treaty such notes shall no longer be issued.

Another article, under the same clause, provides that Rumania shall indemnify the Germans for all damages suffered by them on Rumanian territory as the result of the military measures of one of the belligerent Powers. This stipulation also applies to the losses which the Germans have suffered as participants, and especially as shareholders, of undertakings situated in Rumanian territory. Immediately after the ratification of the treaty a Commission shall meet in Bukarest to fix the amount of such losses. The contracting parties will each appoint a third of the members, and the President of the Swiss Federal Council will be asked to designate neutral personages to make up the other third, which is to include the chairman.

Rumania will also indemnify neutral nations for damage which has been caused them on Rumanian territory as a result of German military measures, and which must be made good according to the principles of international law.

CLAUSE III.—This clause stipulates for the restoration of treaties and agreements between the contracting parties which were in force before the war, except for those cases in which the Peace Treaty provides otherwise, and in cases where such instruments are undenounceable for a certain period. This period is prolonged by the period of the duration of the war.

The contracting parties reserve until after the conclusion of a general peace the fixing of their attitude towards separate and collective treaties of a political character.

CLAUSE IV.—This contains prescriptions governing the restoration of ordinary relations between debtor and creditor. It says, too, that each contracting party will, immediately after the ratification of the treaty, resume the payment of its obligations, particularly the Public Debt Service, to subjects of the other party.

Restoration and compensation for concessions and privileges in land and other rights are also dealt with.

CLAUSE V.—This deals with compensation for damage suffered during or immediately before the outbreak of war by civilian subjects of the respective parties in life, health, liberties, or property through acts contrary to international law.

Germans who were in the Rumanian public service before the war, and who were dismissed as enemy foreigners, shall, on their request, be restored to equal rank and equal salary, or, if this is impracticable, they shall be given fair compensation.

CLAUSE VI.—This clause says that the respective prisoners of war shall be sent home in so far as they, with the assent of the State concerned, do not desire to remain in its territory or to proceed to another country. The exchange of prisoners is to follow as soon as possible, at definite times to be further agreed upon.

The expenditure of each party for prisoners of war belonging to the other party up to April 1, 1918, will be calculated on the basis of an average rate of 2,000 marks (£100) for each officer in Germany, and 1,000 for all other prisoners in Germany, and 500 (£100) and 1,250 lei respectively for prisoners in Rumania. Immediately on the ratification of the treaty a Commission, composed of three members to each party, is to meet in Bukarest to arrange details and to supervise the carrying out of the agreement.

Interned civilians will also be gratuitously sent home as soon as possible, in so far as they do not wish to remain in the country of their internment or go elsewhere.

CLAUSE VII.—This relates to the right of subjects of the contracting parties to return to the country of their origin without suffering prejudice.

CLAUSE VIII.—This stipulates an amnesty for offences committed by prisoners of war, interned men, and certain others. It incidentally stipulates that Rumania shall grant an amnesty to its subjects for their political conduct or military conduct based upon political grounds during the war.

CLAUSE IX.—This provides that captured river craft, merchant ships, and cargoes shall be returned, or, if no longer in existence, be paid for, and compensation shall also be paid for the period they were in the captor's possession. Here, too, a Commission will be appointed.

CLAUSE X.—This stipulates that various rights shall be accorded to German churches and schools in Rumania.

CLAUSE XI.—This says:—"Rumania, after having obtained the assent of the Rumanian National Bank, agrees that the balances and deposits of the National Bank now at the German Reichsbank shall remain in the Reichsbank's charge for five years (and if Rumania falls behind with an instalment, for 10 years), as a security for Rumania's Public Debt Service, as regards the subjects of Germany; and may also, if necessary, be drawn on to pay interest and redeem drawn bonds."

The representatives of the contracting parties will meet in Berlin within four weeks after the signature of the treaty to make further arrangements regarding the fulfilment and further guaranteeing of Rumania's financial obligations.

CLAUSE XII.—This provides that the respective representatives shall meet in Berlin within four months after the ratification of this treaty, further to supplement it.

A RELIGIOUS SERVICE IN THE RUMANIAN ARMY.

"Our East Front is free again!" was the burden of the Kaiser's thanksgivings. The immediate prospect for the Germans seemed alluring. Not only could they count upon being able to withdraw the bulk of their remaining forces for service in the West, but the road to Odessa and to the regions beyond the

THE GERMAN FLAG OVER THE PALACE OF THE RUMANIAN CHAMBER OF DEPUTIES.

Black Sea lay open. While Bulgaria was to receive back more than she had lost in the Dobrudja by the Treaty of Bukarest in 1913, Constanza and the greater part of the province were to be placed under an "Allied" *condominium*. By "rectifications" in the Transylvanian Alps Hungary was to receive some 2,000 square miles of Rumanian territory, while Austria's share was to be about 920 square miles south of Czernowitz. The loss to Rumania of these mountain ridges, with their virgin forests, was estimated at well over £100,000,000. The enemy's territorial demands amounted in all to about one-fifth of the whole area of Rumania. The Central Powers, magnanimously enough, refrained from exacting a cash indemnity; they imposed it in kind, in the shape of the writing off of their requisitions in Rumania to the tune of some £50,000,000. The Rumanian State deposits that early in the war had been conveyed to Moscow for credit purposes were subsequently "transferred" to the account of the Central Powers. The fiscal domination of Rumania was completed by stipulations compelling her to give most-favoured-nation treatment to Germany and Austria without regard to any arrangements which they might make among themselves. On petroleum no export dues were to be levied. Germans, moreover, were to be at liberty to buy up Rumanian land at discretion. The commercial treaty of 1905 was to be renewed until 1930 in a form modified to suit German convenience. Rumania was tied down to her fixed tariff rates, while Germany reserved complete freedom as regards a whole series of tariff questions. The Rumanian proposal that the Germans should requite these concessions at least by giving the assurance that they would not impose an export duty on coal was rejected. Germany

BUKAREST: THE GERMAN GOVERNOR OCCUPIES THE PALACE OF THE MINISTRY OF TRADE.

likewise secured control of the Rumanian railways and a shipbuilding yard on the Danube. Under the pretence of supplying the Rumanian railways with rolling stock, Germany secured a monopoly of such supplies, and in return for this "concession" secured a permanent right to "supervise" the railways.

A representative of the German railway administration was to be stationed in Rumania in order to supervise the employment of the material in the German interest. Railway rates were settled in German favour. On July 7 a special agreement, for which the Bukarest Treaty provided, was concluded for the regulation of postal and telegraph traffic between Germany and Rumania. The telegraphic clauses related to the laying of a third direct line between Germany and Bukarest

THE POST OFFICE, BUKAREST.

and the establishment of a telephone service between Germany and Rumania, a telephone service over the Constantinople-Constanza-Bukarest-Berlin telegraph cable, and an eventual new line to Constantinople. The German Government also secured until 1950 a monopoly of laying cables on the Rumanian coast. By the postal part of the agreement it was stipulated that Rumania should make a special arrangement with Germany, by which the latter should not be in a more unfavourable position than a country immediately bordering on Rumania in respect of postal traffic.

A further supplementary treaty laid down in minute detail, with fixed graduated prices in Rumanian currency, the basis on which the "surplus" supplies of Rumanian corn and other food products were to be placed at the disposal of the Central Powers. The scope of this levy may be estimated from the fact that already before the war the value of Rumanian agricultural products was estimated at £60,000,000. As it was, neither in Rumania nor in the Ukraine were German expectations destined to be realized. By the treaty with Rumania surplus products were to be secured to the Central Powers for a period of two years by a firm contract of purchase. For the following seven years the Central Powers were to enjoy an option. Year by year they were to be entitled to declare whether they would claim for their own use Rumania's surplus production. German interpreters of the treaty regarded it as of special importance for the time after the war, when, as they calculated, there would still be a scarcity of food throughout Europe.

Under the Petroleum Agreement between the Central Powers and Rumania, the so-called Oil Fields Leasing Company was endowed with exclusive rights of the most far-reaching character for 30 years, with the option of renewing the contract for two subsequent similar periods. Up to one quarter of the foundation shares were to be offered to the Rumanian Government, with the discretional

right of transferring its holding to private interests; but Germany and Austria-Hungary assured their own controlling influence by the creation of preference shares of a fifty-fold voting value, and these shares were to be exclusively at their disposal. The Oil Fields Leasing Company's position was safeguarded by a series of elaborate stipulations.

GRAIN WAREHOUSES AT CONSTANZA.

By Article IV of the Petroleum Agreement it was provided that immediately after the ratification of the Peace Treaty the Rumanian Government should enter into negotiations with the German and Austro-Hungarian Governments regarding the manner in which Rumania's surplus oil and oil products might be placed at the disposal of the Central Powers without prejudice to the vital requirements of Rumanian industries and Rumanian needs. This Article was to enter into force only in the event that by December 1, 1918, no other understanding had been reached.

Thus practically the entire oil production of the country was to be at the disposal of the exploiting company. The Rumanian State, if requested by the company, was to hand over the whole producing plant, in the case of failure to reach an agreement on the part of the company and the owners of the plant. The company was to have power of fixing the price of oil every six months. The Rumanian Government, for its part, was to receive from the company for every ton of exported oil-product a royalty of 4 lei (about 3s.), and for every ton of exported crude oil a royalty of 3.40 lei (about 2s. 6d.). No other dues or taxes were to be payable, and the company's export transactions were not to be subjected to any interference or restriction.

Within a few weeks of the signature of the Petroleum Agreement numerous transfers of concessions, of personal and real estate, belonging to individuals or companies interested in the oil industry, were being registered before the Bukarest Courts, as a preliminary to the assumption of these rights by the Austro-German exploitation company.

At the date when the Agreement was signed it was difficult to estimate even its potential value to the Central Powers. Since November,

PETROLEUM TANKS AND DOCK, CONSTANZA.

OIL TANKS AT BUKAREST.

1916, the Rumanian oil industry had been destroyed. During the last ten days before the Germans penetrated into the rich Prahova valley the British mission under Lieut.-Colonel Norton Griffiths had destroyed everything—wells, tanks, refineries were burned, smashed to pieces or blown up, so that even as late as eighteen months after the invasion the Germans had not been able to reconstruct the works. In spite of the utmost efforts of the German engineers not more than 10 or 15 per cent. of the normal production had been retrieved. During the summer after the signature of the Peace Treaty, however, the Germans averred that fully two-thirds of the output had been secured.

Before the war Rumania had in Europe, after Russia, the richest oil-fields and the greatest production of oil. The fields were in German, British and American hands, but the Rumanian Government retained full control of the production and a considerable percentage of the profits. Although the industry was barely a quarter of a century old, the output before the war had reached some 1,500,000 tons of crude oil, chiefly around Câmpina, the centre of the industry, and in the Bustenari, Calinet, Moreni, and Tzintea districts. There existed a score of large refineries, which distilled benzin, paraffin, light and heavy grade oils, fuel oil of various grades, and vaseline. From Ploeshti to Constanza, moreover, there had been laid a pipe-line considerably over 150 miles in length. At Constanza the oil could be stored in enormous tanks, which were left practically untouched when that town was abandoned in November, 1916. Control of the pipe-line was secured by Germany under cover of the *condominium* which she enforced over the most important part of the Dobrudja, between Constanza and the mouths of the Danube.

Before the war German capital claimed to be interested in the Rumanian oil industry to the extent of over £5,000,000, about 50 per cent. of the total nominal value. The actual value of the petroleum trade was returned at about £2,000,000 a year, over half of which was exported. The Steaua Româna Petroleum Company, whose principal shareholders were the Deutsche Bank and the Wiener Bankverein, had a working capital of £2,000,000. When war broke out in 1914 the Rumanian Government at once prohibited the export of petrol and heavy oils to Germany. The German and Austrian companies tried hard to send the much-needed petrol to their home countries, but succeeded in smuggling through only a small quantity at enormous cost. After a year the stocks of petrol increased so much that the Government was compelled to permit a restricted export, but the Central Powers were at the same time desired in return to agree that Rumania should receive a certain quantity of goods the export of which from the enemy countries was prohibited. In the ultimate event the Germans showed that they had not forgotten that they had been forced to pay for petrol at the rate of about £40 a ton.

[From a German photograph.

THE KAISER (third from left) VISITS THE OIL-FIELDS.

Enormously enhanced war requirements for the air and submarine services, as well as for motor traction in the field, rendered it vital for Germany to secure for herself independent supplies of petrol, for which the home-manufactured benzol furnished no satisfactory or adequate substitute. Experiments for the extraction of a low-temperature oil from coal had likewise failed to yield any considerable return. Before the war Germany had derived 93 per cent. of her mineral oil supplies from abroad; only 7 per cent. could be produced at home. Over 50 per cent. of these foreign supplies came from the United States, while less than 10 per cent. had been drawn from Rumania. Although the Germans had no particular grievance against the Standard Oil Company, they had always chafed under so great a dependence upon American industry for this essential raw material. The signature of the Rumanian Petroleum Agreement was accordingly welcomed in Germany as a beneficent relief from an economic servitude. The German point of view in the matter was set forth as being that German influence in the Rumanian oil industry must be predominant, not only in order to render German industry independent of market fluctuations, but also in order to secure a direct supply of oil products prepared in accordance with the standard requirements of German industry.

With regard to the general operation of the Petroleum Agreement, the German Government caused it to be explained that it was in order to overcome the political repugnance of the Rumanians that the Agreement had been invested with the covering clause providing that immediately after the ratification of the Peace Treaty the Rumanian Government should enter into negotiations with the Governments of Germany and Austria-Hungary with a view to determining the most expedient manner in which Rumanian surplus crude oil and oil-products might be placed at the disposal of the Central Powers, without detriment to the vital interests of Rumania in respect of her own needs and the requirements of her industry. Article IV., providing for the establishment of a petroleum monopoly, was designed to come into force automatically on December 1, 1918, only if these negotiations proved abortive. It was not, however, to be inferred that the monopoly provision was, even in that event, in all circumstances to be applied, since Article IV. itself provided further that it would remain for the German Government to decide the date at which this provision was definitely to become operative. The purpose of this circumlocutory drawing of the capital clause was, of course, merely in order to present Rumania as a "free agent" in a situation every exit from which had been blocked in advance by the pettifogging employers of the Wilhelmstrasse and by the Shylocks of German industry.

All competent authorities in Germany were highly elated by the terms imposed upon

Rumania under the Petroleum Agreement. In the Reichstag Herr von Körner, the chief economic negotiator, boasted that the Germans had gained their ends by their "endurance and toughness" in negotiation, and that they had ultimately got everything they wanted, although they had started at a disadvantage, since the "preliminary peace" with Rumania had been concluded without the establishment of any "definite principle for the solution of economic questions." With the annexation of the Rumanian oil-fields assured, the so-called German-American Petroleum Company was reconstructed, and was linked up with German shipping and other imperialist interests by the addition to the board of Herr Ballin, of the Hamburg-Amerika Line, and of a representative of Herr Stinnes, the German coal magnate.

The Berlin Diskonto-Gesellschaft and Bleichröder's Bank, furthermore, acquired in Rumania coal-mines estimated to produce about 80 per cent. of Rumanian coal. Production was to be forced up to the highest pitch in order to make the German authorities in Rumania independent of coal imported from home.

The domination of the Danube and its unrestricted use by the Central Powers was to be secured by a series of measures, including not only the "lease" of the docks at Turnu-Severin, below the Iron Gate, provisionally for 30 years at a nominal "rent" of £40 a year, and the establishment of German docks both there and at Giurgiu, opposite the Bulgarian port of Rustchuk, but also the setting up of a so-called Mouths of the Danube Commission in the place of the International Commission. The European Commission of the Danube, called into being in 1856, consisted before the war of eight delegates, one for each of the following Powers: Austria-Hungary, France, Germany, Great Britain, Italy, Rumania, Russia, and Turkey. Its seat was at Galatz. Since November, 1904, it was to exist for successive periods of three years unless denounced by one of the contracting parties a year before the conclusion of any such period. The income of the Commission, which had rendered considerable services in deepening and correcting the channel of the river, was entirely derived from taxes levied on shipping leaving the river. By the peace convention between Bulgaria and Russia of December 30, 1917, Bulgaria was given representation on the Commission. The new Mouths of the Danube Commission lost no time in settling all questions of shipping dues in a manner that accorded above all with German interests. Germany and Austria-Hungary assured to themselves on principle complete equality with Rumania on the Danube. German shipping companies were always to find

THE PORT OF GALATZ.

suitable landing places and harbour establishments in Rumanian waters. Such establishments and port accommodation as had been developed or constructed by the German military authorities during the war were to remain at the unrestricted disposal of the Austro-German shipping companies, even after such establishments had reverted to Rumanian ownership. Having secured for themselves for years ahead the control of Rumanian petroleum production and of Rumanian surplus agricultural products, the Germans calculated that they would be able to oust every flag but their own from the Danube. A new shipping concern, the so-called Bavarian Lloyd, which had been founded since the war, was to establish regular communications with the regions of the Lower Danube. The so-called Danubia Company, of Regensburg, an important petroleum firm that had been established in 1917, was also encouraged to increase its river tonnage, while the Bavarian Government announced its intention of constructing new petroleum wharves at Regensburg, with a view to the prospective growth of the oil traffic. The Danubia Company had already returned a net profit of £15,000, and had paid a dividend of 15 per cent. on its first year's working, before the conclusion of the Petroleum Agreement with Rumania. Subsequently this company attached itself to the Hamburg Syndicate for the exploitation of the new oil fields.

The new Commission for the Mouths of the Danube, consisting of representatives of Danubian and Black Sea States, was expected to have plenty to do as soon as it should have constituted itself. Since the outbreak of war navigation and other works in the Danube Delta had practically been suspended. But as the European Commission, which was to be superseded, had realised a surplus of nearly £20,000, it was announced that there would be no necessity for increasing the navigation dues. Until the constitution of the new Commission it was proposed that Rumania should administer the property of the European Commission.

STREET SCENE IN BUKAREST ON THE ANNOUNCEMENT OF THE CONCLUSION OF PEACE.

Great Britain, France, and Italy in May, shortly after the conclusion of the Bukarest Treaty, lodged the following formal protest with the Rumanian Government at Jassy:

The Governments of the Entente have learned that the treaty signed at Bukarest on May 7 between Rumania

and the Central Powers contained clauses formally contravening international agreements and conventions to which they are signatories. The treaty of Bukarest in fact provides that the Danube below Braila shall be placed under the *régime* of a new Danube Commission which will only include delegates of States bordering on the Danube or on the European coast of the Black Sea. The constitution of this Commission, as well as every alteration brought about in the statutes of the European Danube Commission without the assent of all the signatories to the Conventions now in force, is a flagrant violation of these Conventions. Article XI. of the Treaty of London of May 10, 1873, laid down the procedure to be followed for any alterations in the statutes of the Commission. Article IV. of the Treaty of Paris of March 30, 1856, laid down that the principles set forth in the Act of the Congress of Vienna for the regulation of navigation on rivers which pass through, or along the borders of, several States should in the future also be applied to the Danube and its mouths.

The provisions of the treaty of Bukarest are in opposition, both in form and substance, to the conditions which constitute the conventional legislation relating to the Danube, inasmuch as it modifies them, and the modifications it introduces take no account of the rules specially laid down on this subject. In these conditions, the Ministers of France, Great Britain, and Italy have the honour, by order of their respective Governments, to notify the Rumanian Government that the countries which they represent consider as non-existent any arrangement made independently of them regarding the navigation of the Danube, this question being one that can only be decided by the general peace and by agreement between all the Powers interested. In addition they make every reservation as to the consequence that may arise from any provisional *régime* which may be applied until that time.

It was in January that, yielding to repeated appeals by the Council of Bessarabia, the Rumanian Government agreed to send across the Pruth troops that were to be placed at the disposal of the Bessarabian authorities in order to restore order in the country and among the inhabitants who were being interfered with by the Bolshevists. The decision of the Government to send troops was dictated not only by a desire to help the newly formed Republic that had arisen between Pruth and Dniester, but also to avoid the danger of having complete anarchy in the immediate neighbourhood of the country. The chief consideration, however, for the Rumanians was that Bessarabia contained stores of all kind belonging to Rumania which were threatened with destruction by the Bolshevists, who had made themselves masters of the railways and of the principal centres. To save these stores and to keep up communication with Odessa and Kieff was a question of life and death. The Bessarabian Government was unable to form in a short time an army which would be able to face the situation created by bands of marauding soldiery, as well as by the Bolshevists, who were trying to make themselves masters of the whole country. In order to assist the local authorities, and at

GERMAN GUARDS AT THE ROYAL PALACE, BUKAREST.

MUSIC ON THE MARCH.

the same time to maintain communications with the Allies in Western Europe, the Rumanian Government dispatched an expeditionary force, which, after some desultory fighting, reached Kishineff, the Bessarabian capital, on January 26. The Moldavian population as a whole—numbering some $1\frac{3}{4}$ out of $2\frac{1}{2}$ millions—welcomed the Rumanian armies, though the democratic character and programme of the Bessarabian Council of the Land made it suspicious of any interference with its autonomy. Deserted by the Ukraine, denounced by the Bolshevists, the Bessarabian Government and Council of the Land, which on December 15, 1917, had proclaimed Bessarabia an independent "Moldavian Republic," had no choice but to beg for help from Rumania. M. Marghiloman was anxious (spurred on by a hint from Germany) to proceed to the annexation of Bessarabia, but he found the Bessarabians less tractable than he had hoped. Only after prolonged discussion would the Council accept union with Rumania, and then only after complete acceptance by M. Marghiloman of the Bessarabians' own terms—*i.e.*, retention of their full local autonomy and government, full representation in the Rumanian Government and Parliament and the future adoption by Rumania proper of equal and universal suffrage as in Bessarabia. M. Marghiloman attempted to boast he had "won" Bessarabia. In *fact* Bessarabia had herself agreed to union in the interests of Rumanian democracy.

On April 9, after two days' deliberations, the Bessarabian Diet adopted by 86 votes to 3, out of 138, the treaty of union with Rumania. The Rumanian Premier, M. Marghiloman, in a telegram from Kishineff to his Foreign Minister, M. Arion, said:

> In the name of the Rumanian people and of the King I take cognizance of this vote, and in the midst of indescribable enthusiasm I have proclaimed the union. Divine service was then held in the Cathedral in the midst of an enormous crowd and accompanied with tremendous jubilation. I am very happy.

M. Arion replied to his chief:

> Right has triumphed. The country's wounds are thereby soothed, and this accomplished fact furnishes Rumania with new strength.

The Rumanian official Press welcomed the return of the old Moldavian province after more than a century to the mother country. The injustice committed by Russia in 1812 and by Europe in 1878 had, it was claimed, been wiped out. To the past generation of Rumanians this readjustment might have been agreeable as an act of historical retribution. They would gladly have surrendered the Dobrudja, with its mixed population, in order to recover their lost kith and kin in Bessarabia. But the Kustenji of their time was very different from the Constanza as it had grown to be up to the outbreak of the war. Immense sums had been spent on the development of the national port; its rapid progress had been watched with pride by the entire nation, and its loss, though only regarded as a temporary sacrifice, was felt by all Rumanians as a bitter humiliation. When in January, 1878, Russia announced her inten-

tion of resuming possession of that portion of Bessarabia which had been restored to Moldavia by the Treaty of Paris in 1856 and to compensate Rumania by allowing her to annex the Delta of the Danube, no little indignation prevailed at Bukarest. Every effort was made to obtain a reversal of the decision, which, however, received the sanction of Europe at Berlin in the following July. It was necessary to accept the inevitable, and Rumania had to make the best of her new acquisition, which at least brought her the advantage of a considerable extent of sea-coast, with the at that time still undeveloped ports of Sulina, Constanza, and Mangalia. Of these Sulina was soon to become a place of considerable importance,

A CAMP KITCHEN.

owing to the great engineering works in the central arm of the Delta designed by the genius of Sir Charles Hartley, and carried out under his superintendence. Mangalia, with its large and deep inlet, was capable of being transformed into a great naval port affording accommodation for a more numerous fleet than Rumania was ever likely to possess. Constanza, at the time of the annexation of the Dobrudja, was little more than a fishing village with a population of some 5,000 souls. It was originally a Greek colony, and owed its former name of Tomi, according to the legend, to the terrible crime of the enchantress Medea, who, flying across the Black Sea from the Court of her father, King Aeëtes of Colchis, murdered her young brother Absyntus, whom she had brought with her, and, cutting his body in pieces, scattered the fragments on the waves in order to arrest her father's pursuit. The King, overwhelmed with horror, stopped the course of his ship in order to pick up the pieces and buried them on the neighbouring shore. Ovid spent there his exile; while in the time of Constantine the Great, from whom it derived its present name, the fortunes of Constanza revived, and in the Middle Ages it became a place of commercial importance under the Genoese. In recent years Constanza had made remarkable progress, especially since the establishment of railway communication with Moldavia and Wallachia by the construction in 1895 of the great bridge over the Danube at Tchernavoda. A spacious harbour was enclosed by long breakwaters, and the quays were lined with great silos for the storage of grain and reservoirs for petroleum. Up to the outbreak of war Rumanian lines of steamers, as well as those of the Austrian-Lloyd, connected Constanza with the principal ports of the Black Sea and of the Levant, while a fast maritime service to Constantinople supplemented the overland Orient Express route *via* Belgrade and Sofia. With the growth of its commercial activity the city had increased rapidly, extending beyond the little peninsula

RUMANIAN REFUGEES RETURNING HOME.

which formed its original site and spreading along the coast to the south. It had also become a place of resort in summer.

The German aim, in German words, was to free the Black Sea, like the Danube, from Russian, French and British interference The Black Sea was to become entirely encircled by the Quadruple Alliance Powers, with Rumania, as a forced convert to the Alliance, sandwiched in between. She was to become one of the chief connecting links between Central Europe and Nearer Asia. As the *Cologne Gazette* outlined the future of Rumania:

Although by her whole attitude in this war Rumania had not deserved that her war account should close with a profit, the Quadruple Alliance approves of the Bessarabian future for Rumania, in the idea that the Rumanian State, since it does exist, must be kept in a condition of vitality. The direction, indeed, which Rumania's political road will now take lies not in Hungary, as the war agitators of Bukarest had desired, but to the north-east; Rumania has become more than ever an Eastern European State.

In the darkest hours of their country's misfortune Rumanian patriots were never weary of repeating the proud boast that Rumania had entered the war of her own free will, and that, notwithstanding losses in human life amounting to some 800,000 souls and the crushing material losses involved by the Bukarest Treaty, she had been true to her destiny in entering the war on the side of the Allies. The Germans aspired to be masters of all South-Eastern Europe, but Rumania, with her lofty ideals of freedom and national unity, stood in the way. Confident in the justice of their country's cause and in the victory of the Allies, the Rumanian people of all classes bore with exemplary courage the hardships and humiliations of the hour. Toleration of the Germans and their ways, the intellectual and political snobbery of pre-war days was changed into an almost universal hatred. "I do not think," said M. Take Jonescu on his arrival in Paris after the capitulation, "that even the English know how to hate the Germans as we hate them!" And the Rumanian statesman added that during the Bukarest negotiations one of the German delegates, Herr Kriege, the judicial adviser of the Berlin Foreign Office, had boasted that the conditions imposed upon Rumania were as nothing compared with the terms which the Germans had prepared for Great Britain and France.

In May, 1918, after the signature of the Peace Treaty, King Ferdinand addressed the following telegram to M. Marghiloman, the Rumanian Premier:

"I hereby take cognizance of the peace which has been concluded at Bukarest, and thank you and the other Rumanian delegates for the difficult and self-sacrificing work you have done to preserve our rights at a painful time. As King and as a Rumanian, I have every hope in the future of my brave and valiant people. I thank you for the assurance of confidence which you have in the prosperity

and strength of the country under my leadership and under that of my dynasty."

The King's message makes allusion to events that were of the very essence of the Rumanian tragedy. Succeeding in the midst of war to a task that seemed beyond his strength, he nevertheless had risen to the occasion, and had taken the popular side. Although a Hohenzollern, he was, as he himself declared, a true "Rumanian," and, strengthened by the indomitable character of his queen, he had the courage to break all his ties of birth and to throw in his lot with the Allies. When Rumania was compelled to surrender at discretion, he himself remained calm and set his country a noble example of endurance. This firmness did much to revive the broken spirit of the civilian population and to allay the bitter disappointment of the Army. Twice he offered to abdicate in the hope that this might alleviate the burden laid upon his kingdom. His Ministers, however, acting in accordance with the feelings of the whole country, refused to sanction this supreme sacrifice

Prince William of Hohenzollern in a telegram of congratulation to the Imperial Chancellor, Count Hertling, on the conclusion of the Bukarest Treaty, gave appropriate expression to the ignoble sentiments entertained towards King Ferdinand by his Sigmaringen kinsman More perfidiously malevolent were the Emperor William's attempts to secure the deposition of the "traitor to the House of Hohenzollern." To the Hohenzollerns, as to the Hapsburgs, the House had always come before the nation. King Ferdinand's principles were beyond the comprehension of these predatory tyrants. Unhappily for the Emperor William's designs, his scheme was thwarted by prejudicial engagements on the part of his brother of Hapsburg. The story goes that in the autumn of 1917 Pan-German circles, with or without the immediate connivance of the Kaiser, had conceived the idea of elevating one of his sons to the Rumanian throne, which was to be declared vacant. Certain ill-defined quarters are credited with having at about the same period offered the reversion of the Rumanian Crown to the Emperor Charles. Both these suggestions, however, excited the profound disfavour, on the one hand, of the Magyars, and, on the other, of the Bulgarians. The prospect of a potentially Greater Rumania, in the guise whether of a German colony or of an Austrian province, was acceptable to neither of these peoples

INVALIDS OF THE WAR.

But instructed by the Austro-German conflict of interests in the Polish question, Count Czernin seems at an early period of the Brest-Litovsk conferences to have conceived the idea of reaching a settlement with Rumania on lines that would secure for Austria in Rumania concessions at least equivalent to those which Germany was extorting from Russia and was manifestly contemplating to exact from Poland. King Ferdinand was accordingly approached in the name of the Emperor Charles. The King was urged to assent to peace negotiations with the Central Powers, on the ground that further

THE KING OF RUMANIA.

THE QUEEN OF RUMANIA.

resistance would imperil the dynasty and would inevitably end in the partition of Rumania between Hungary and Bulgaria, who were alleged already to be clamouring respectively for Moldavia and Wallachia as their several share of the spoil. These considerations were reinforced by the further argument that in view of the Bolshevist peril all Monarchic States ought to hold together, and that not least of all for this reason the Emperor Charles desired to save the Rumanian dynasty. While there was at the time no indication of the precise stage at which the Germans were admitted to the secret of these overtures, there can be no doubt but that they ultimately concurred in the Austrian efforts to induce Rumania to treat for peace. Herr von Kühlmann, indeed, who as German Foreign Secretary acted as the principal delegate of the Central Powers at Brest, must very early have discerned the importance of making peace with Rumania an integral part of the general settlement which the enemy Governments were at that time striving to impose in the East. In these circumstances it was, from the German as well as from the Austrian point of view, desirable that no preliminary stipulations should be made of a nature calculated to drive Rumania to desperation. When, therefore, General Averescu sent his first envoys to German Headquarters Marshal von Mackensen declared that he for his part regarded the question of the dynasty as a purely internal question. The same view was almost simultaneously expressed in the Reichstag by the German Under-Secretary for Foreign Affairs. Mackensen, however, in his interview with the Rumanian envoys added that he believed the Rumanians in the occupied districts to be invincibly opposed to the maintenance of the ruling House. In support of this allegation the envoys were shown a memorial advocating a change of dynasty signed by various Germanophiles of Bukarest. It is noteworthy that M. Marghiloman had not appended his signature to this document.

On the strength of these manœuvres, for which he assumed full credit, Count Czernin, again in the name of the Emperor Charles, requested audience of King Ferdinand. This

interview took place at a Moldavian railway station, in the presence of General Averescu, the Rumanian Premier. Count Czernin, who was by turns obsequious and brutal in his manner, reiterated the arguments that he had already urged, and induced the King to accept the preliminary terms prescribed by the Central Powers. As set forth in subsequent Vienna official statements, the original intimation through an Austro-Hungarian channel was that the peace conditions demanded from Rumania would be honourable, and that, without entering into any obligation to fight against her Allies of

THE CROWN PRINCE OF RUMANIA.

the Entente, she might come to an understanding with the four enemy States "to combat, in union with the latter, the dangers of an international revolution and anarchy." The territorial demands of the Central Powers were not specified at the outset, but Count Czernin later made them plain to the King.

All observers were unanimously agreed that if the enemy had been successful in dispossessing the King and Queen they would have been able to rely upon enthusiastic restoration after the war. Rumanian patriots, like M. Take Jonescu, indeed, declared that the Rumanians would not have submitted to change of dynasty until they had fired their last cartridge.

The feelings entertained towards King Ferdinand by those Allied officers and officials who had come into contact with the Rumanian Royal Family during the war were shown on the departure of the British and French Missions towards the middle of March. Before their departure General Ballard and the members of the British military mission were received by the King, who thanked all the officers for their valuable services. In reply, the General asked his officers to give three cheers for his Majesty. These were heartily given. The French military mission, under General Berthelot, which was by far the most important one in Rumania, and had done most signal work in reorganizing the Rumanian Army, was warmly thanked by the King, who said that he had no words adequate to express his recognition.

The fortitude of the Rumanian Army under the galling *régime* imposed by the Bukarest Treaty strikingly attests the devotion of the people. As soon as the King had permitted officers to resign before reaching the age limit many of them resigned their commissions and preferred to risk the adventurous journey through Russia to Murman, in order to take passage to France, and to fight there for the Allied cause. The lot of those who remained behind was immeasurably harder. In accordance with the peace treaty, the demobilisation of the Rumanian Army began immediately after the signature of the preliminaries. A German Demobilization Commission was appointed to supervise the Rumanian Headquarters, and German officers were attached to each division to see that the conditions were fulfilled. The Rumanian Army leaders, General Averescu and General Prezan, immediately resigned. The strength of the Rumanian Army was reduced from 250,000 to 30,000 men. The effectives of infantry regiments were reduced from 4,000 to 200 men and mounted regiments to 120. Only 160 rounds of ammunition per rifle were allowed. The remaining arms and munitions were stored under a German and Rumanian military guard. For police purposes the Rumanians were permitted to keep mobilized in Bessarabia two divisions; but both of these were the so-called mixed Dobrudjan Divisions. Demobilized men who were natives of Wallachia and Oltenia were allowed to return to their homes under strict German control; these officers and men, without respect of rank, were compelled to submit to the humiliation of saluting every German

soldier, even privates. Rumanians in general were allowed to pass from Moldavia into the invaded territory only with special permits issued by the German military authorities.

Following upon a general election, the new Rumanian Parliament assembled on June 17 in the National Theatre at Jassy, when King Ferdinand read the following speech from the Throne :—

Senators and Deputies,—Now, as ever, it gives me lively satisfaction to be in the midst of the nation's representatives. Coming from the recent General Election, you bring me the real feelings of the country concerning the hard decisions which are under our careful examination.

Thrown on its own resources, our country with noble and high-minded patriotism has sacrificed the flower of its brave sons, but the prolongation of armed resistance would have exhausted its strength to the point of destruction, and Rumania has concluded a peace which was forced upon her as a necessary condition of her existence. In accordance with the prescription of the Constitution, the terms of the Peace Treaty will forthwith be submitted to the Legislature for approval. This treaty manifestly imposes painful sacrifices upon the nation, but the Rumanian people will examine it with that manliness which exact comprehension of the State's interests in face of the real position lends.

Meanwhile, let us thank heaven that precisely in the hour of these trials the feeling of belonging to a common race has brought back to the mother country the beautiful Moldavian land which was torn from the soil of our fathers, and has thrown the Bessarabian people into her arms in order to enhance her strength for labour and her faith in the future. The good reception which this great event met with on the part of the Powers with whom we have been negotiating concerning peace has paved the way for the restoration of our friendship as it existed in the past. Whilst maintaining good relations with other countries, we shall endeavour to resume normal relations with the new States which are in course of formation.

Senators and Deputies, the Finance Minister is unable as yet to submit to you the normal Budget, for which the country will assuredly consent to make the requisite sacrifices. He will, however, lay before you a series of measures to enable the National Treasury to reduce the burden upon it, and to satisfy the extraordinary requirements with which we are faced.

The crowning point of your work will be to fix the points of our Constitution, which we must revise so that in the shortest period, and before any other constitutional change, we may carry out agrarian reform and awaken the lower classes of the nation to real political life.

The Chamber, in its reply, promised to approve the Peace Treaty without delay, and expressed the conviction that Rumania, confident in the power of patriotism and in the spirit of sacrifice of its sorely tried people, would find strength to live and progress. By virtue of the Treaty Rumania had become a neutral State.

Referring to these first manifestations of Rumanian political sentiment after the peace, Herr von Kühlmann, in the speech in the Reichstag a few days later, made a show of deprecating "open mistrust" of Rumania, but declared that German policy and public opinion would necessarily continue to adopt a waiting attitude towards developments in that country. In his opinion, the history of events before the war absolutely proved that the great majority of the Rumanian people had been "driven into the war against their will by a small number of partly selfish, partly light-

TRANSPORTING PONTOONS.

JASSY.

minded, partly criminal politicians and business men." He continued :—

> The attitude hitherto adopted by the Rumanian Cabinet with which we concluded peace gives a guarantee, so far as I can see, that those persons whose guilt can be shown will be brought to account, and the fact that this comes from the Rumanian people of their own free will, without any attempt at pressure from outside, gives this act of national expiation its true value for us, too. It will depend on the carrying out of this act of national expiation how the further course of Rumanian policy is judged by our public opinion at large. I think the Speech from the Throne at the recent opening of the Rumanian Parliament, which has been summoned to ratify the peace, permits us in this respect to obtain a not unfavourable glimpse into the future.

The theory of "national expiation" enunciated *ore rotundo* by Herr von Kühlmann was bound to excite considerable interest as a precedent, quite apart from the particular application designed for it by its author. This theory, like the formula of "no annexations and no indemnities" to which the delegates of the Central Powers paid such complacent lip-service at the Brest-Litovsk conferences, was duly added to the armoury of double-edged weapons that the Germans had been forging throughout the war.

In particular, however, Herr von Kühlmann was merely, as he imagined, reflecting the artificial agitation created by the Germans in Rumania for the prosecution of M. Bratianu and the members of his Cabinet. Already in May, shortly after the formal signature of the Bukarest Treaty, it was reported that an inquiry was to be instituted into the conduct of the war and the administration of the State funds. At the end of June the Rumanian Chamber of Deputies, after speeches by the Foreign Minister, M. Arion and by the Premier, M. Marghiloman, unanimously adopted the reply to the speech from the Throne. M. Arion declared that the hour of justice had struck and that the country demanded from Parliament the fixing of the responsibilities. "Past errors," he said, "must be expiated and crimes must be punished." The Premier explained that his predecessor, General Averescu (who in the meantime had been returned to the new

COUNT CZERNIN,
Austro-Hungarian Foreign Secretary until 1918.

Parliament as an Independent member), had had no intention of negotiating for the conclusion of peace, but merely sought to delay matters, with the result that the plenipotentiaries had forced him to assent to demobilization and the passage of German troops through Moldavia. In the course of his further declaration of policy M. Marghiloman

M. J. J. C. BRATIANU,
Rumanian War Prime Minister.

announced that steps would be taken by the Government temporarily to suspend the irremovability of judges. This announcement was regarded as indicating an apprehension on the part of the Government lest the irremovable Judges, who, as members of the Appeal Court, would have to hear any indictment against M. Bratianu, should acquit him, as they were regarded as being almost exclusively partisans of the former Premier. Throughout the month of July Parliamentary Committees at Jassy were engaged in discussing the merits of an impeachment. Towards the end of the month Marshal von Mackensen, in his capacity as Dictator at Bukarest, was reported to have advised his own Government that, as far as Germany was concerned, the case against the Bratianu Cabinet should be dropped, as an acquittal was practically certain. At the same time it was stated that the Rumanian Chamber had unanimously approved the prosecution of M. Bratianu, M. Take Jonescu, and their former colleagues. Meanwhile M. Take Jonescu had left for the West; as he was leaving Rumania a number of soldiers returning home by train called out to him: "Come back with victory and our deliverance!"

Rumania after the peace was in the situation of an occupied country governed by the enemy. The Marghiloman Cabinet was merely the shadow of the German Command. Economic conditions were desperate. Only a small area of land had been cultivated; drought prevailed throughout the spring of 1918; and the crops, as the Germans also discovered before the autumn, yielded practically nothing. The population, herded together, underfed, and depressed, suffered terrible hardships, and epidemics of all kinds were rampant. There were villages of 300 to 500 inhabitants that had been reduced to 40 by spotted typhus and other scourges. About 60 per cent. of the cattle and over 70 per cent. of the horses had gone. Nearly the whole of the railway rolling-stock had been lost. The productive capacity of the country had been reduced in every direction.

Jassy, the capital of Moldavia, had been since November, 1916, the capital of the Rumanian kingdom. Although peace was concluded in May, 1918, between the Central Powers and Rumania, the Royal Family, the Government and the Legations determined not to return to Bukarest until the German occupation authorities, with their troops and camp-followers, had been withdrawn. In peace time the new capital had a population of about 65,000, and might have sheltered without undue inconvenience another 10,000 or 15,000 souls. Some 70 per cent. of the inhabitants were Jews who earned just enough to keep alive. The smart society of Jassy lived in a separate quarter of the town. When the threat to Bukarest became imminent and the Government decided to move to Jassy the population increased at one bound by some 100,000 persons. An army of officials with their families, the members of Parliament, the staffs of the banks, and a very large number of well-to-do people from the invaded territories swarmed in. A few weeks later the Russian and Rumanian Headquarters also moved to the new capital, so that by January, 1917, the population of Jassy had grown to about 200,000. Prices went up by leaps and bounds and profiteering became as rampant as the diseases which broke out among the underfed and overcrowded population. Over 15,000 cases of spotted tyhoid occurred in the town, and it was only thanks to the devotion of the Rumanian and French doctors that the epidemic was kept even within these limits. More than 150 Rumanian doctors and a dozen French doctors and nurses paid for their efforts with their lives. Special food and medicines were very scarce, and the British Red Cross Society rendered

most valuable service by supplying the hospitals and the civilian population from their stores, thus helping to save many lives.

Financially the situation was even worse. At the outbreak of war the Budget had amounted to some £20,000,000, while the National Debt stood at about three times that figure. In the period from August, 1916, to February, 1918, the revenue had seriously diminished, while the Debt had increased to about £250,000,000. In May the Debt was estimated at fully £400,000,000. As the military situation was always critical and the Government had decided twice before the Russian collapse to move to Russia, those who possessed money kept it at home and did not invest it in Government securities. Therefore only a comparatively small amount had been raised in Rumania by loans. The greater part of the funds needed had to be raised abroad, especially in England, but also in France and the United States, at a rate varying from 4 to 5 per cent. Thus the interest which Rumania had to pay on her National Debt represented a sum equal to nearly the whole of her Budget in pre-war days.

Rumania thus found herself faced with the almost overwhelming problems of reconstruction at the very moment when she was being crushed under the complete military, economic, and political domination of the Central Powers. The financial burden of the war exceeded £120,000,000, apart from the £400,000,000 of the National Debt. From the Rumanian State Bank no less than £64,000,000 had been borrowed on account of war costs. In order to meet these heavy liabilities, the Government proposed, in addition to a graduated income-tax and war-profits tax, to levy an internal loan and to introduce an alcohol monopoly, higher probate and stamp duties, taxation of mortmain property, a special tax on sugar and tea, etc., and to reduce the number of officials. Among other measures the Rumanian Chamber passed a Bill compelling workmen to work on the railways—in view especially of the new German Trans-Moldavian lines to the Ukraine—and another Bill providing for compulsory cultivation of the fields for five years. The wheat crop had proved a failure, and as maize, the staple food-crop, was only medium, this measure was necessary in order to stave off starvation. Throughout Eastern Europe, indeed, in Poland and in the Ukraine, the drought had seriously reduced the harvest. In Bessarabia the crops were equally poor. In this region, which had

M. TAKE JONESCU,
Former Vice-President of the Council.

united itself with Rumania in April, the position gradually improved during the summer. The land had been divided among the peasants by an autonomous National Council, which was also authorised to carry out agrarian reforms. The administration was autonomous, subject to the supervision of a Rumanian Commissioner-General. Ukrainian protests against the reunion of Bessarabia with Rumania were rejected and ultimately withdrawn.

As far as their own interests required it, the Germans ever since they had occupied the country had been actively engaged in works of all kinds in Rumania, including not only the establishment of river docks and wharves and the restoration of the oil-wells, but also the most intensive cultivation of the Rumanian fields under forced labour. They estimated that in 1917 they had cultivated in this way nearly one-half of the 7,500,000 acres in their occupation. For this activity they claimed considerable merit, on the ground that it would prove of permanent value to the country, and that above all the peasantry could not but benefit in the highest degree from the prospect of having for many years to come an assured market for their goods at fixed prices. And in these benefits the Germans claimed that they were morally entitled to participate. While, therefore, it might have been some sort of comfort for Rumanians

THE RUMANIAN ROYAL FAMILY.

Photographed after the New Year Thanksgiving Service. Left to right: The Archbishop of Rumania, Princesses Elizabeth and Ileana, the Queen, Princess Marie, Prince Carol and the King; General Shtcherbatcheff, General Berthelot (in light uniform), and M. Bratianu.

to reflect that good would have come of evil if the cataclysm assisted more evenly to distribute the wealth of the country, there could be no doubt that German social and economic experiments in the occupied districts were vitiated from the outset by their artificial and purely opportunist character. On the other hand, the Rumanian Government during 1917 had passed the most sweeping measures of constitutional and land reform. The peasant soldier, it was acknowledged, had won with his blood the right to possess the soil. Upon this principle was based the King's pledge of legislation conferring this right. Such legislation necessarily demanded, as a condition precedent, reform of the electoral system, and the substitution of universal, equal, direct and secret suffrage for the old Prussian system which had entirely nullified the peasants' votes. The land reform scheme, providing for an increase in the aggregate area of peasant holdings from 53 to 85 per cent. of the whole land, one of the highest proportions in any country, had, together with the principle of universal suffrage, been adopted in the Constitution, by overwhelming majorities, by the Senate and Chamber during June, 1917. All these reforms Marghiloman and his German and Germanophil friends, in the interests of certain landed and financial cliques, did not hesitate to pronounce against.

By the Treaty of Bukarest the German Government had dealt with the Jewish question in such a way as to constitute an outrageous interference with Rumania's independence without providing any complete alleviation of Jewish disabilities. Very different was the frank and sympathetic attitude of the Entente Powers. Lord Robert Cecil in May, 1918, in reply to a question in the House of Commons stated that H.M. Government supported the full solution of the question to which the Bratianu - Take Jonescu Government had pledged themselves in June, 1917. This honest and tactful dealing with the question commended itself to both Rumanians and Jews and was two months later copied by the Italian and French Governments. In August the Italian Ambassador in London was instructed by his Government to inform M. Sokoloff, representing the Zionist Organization, that the Italian Government recognized that the provisions of the Bukarest Treaty relating to religious equality in Rumania were less liberal than those privileges which the Rumanian Government itself had spontaneously promised. The Italian Government accordingly declared that it would use its best endeavours to secure for the Jews in Rumania a

settlement which would definitely assure them permanent equality. The French Minister for Foreign Affairs, M. Pichon, moreover, in a letter to the Central Committee of the Alliance Israélite Universelle, said that the French Government was convinced that the restricted emancipation promised to the Jews in Rumania at German dictation was not in accord with the declarations of M. Bratianu and M. Take Jonescu in June, 1917, when they announced that ever since August, 1914, it had been agreed, in agreement with M. Filipescu, to settle the Jewish question and to place the Jews in Rumania on a footing of complete equality with their fellow-subjects. M. Jonescu even added that he did not consider equality before the law to be enough, but that efforts ought to be made to promote fraternal relations between Jews and Christians. M. Pichon promised that at the opportune moment the French Government would take steps to ensure that the very broad views of these great Rumanian statesmen should prevail.

At every turn and in every field Rumania found herself confronted with circumstances that demanded heroic courage and endurance. To this noble example her Allies were fain to do homage. The Germans took care to remove inconvenient witnesses to their "knightly" methods of treating invaded territories soon after they had seized Bukarest. They requested that the American and the Dutch representatives should be withdrawn, and this request had to be complied with. But notwithstanding this precaution enough leaked out to show that not even the fate of Belgium had been sadder or more terrible than the fate of Rumania. Her anguish had been deeper because it followed upon a brief spell of brilliant success. The dangers of the triumphant rush across the Transylvanian mountains were clear to the well informed, but naturally they were not visible to the masses of the Rumanian people. Then came the shock of defeat inflicted by overwhelming numbers, well equipped and skilfully commanded. The Rumanians fought with splendid tenacity, but when King Ferdinand reopened Parliament at Jassy three days before Christmas in 1916 two-thirds of his kingdom was in the hands of the enemy. The King and his people never faltered. "Our faith," M. Bratianu proclaimed, "is intact." The general misery was intensified by a winter of unusual severity, but with indomitable spirit they turned at once to the work of reorganization. Two days after the Session had opened a powerful Coalition administration was formed in which the followers of M. Take Jonescu joined hands with the followers of M. Bratianu. It was a hopeful sign that acute party divisions had disappeared before the nation's danger. Great *boyars*, like M. Filipescu, who well knew what social and economic changes the war must bring to the detriment of their order, had long before sacrificed considerations of position and of wealth to the national aspirations for a "Great Rumania." Among political chiefs M. Carp and M. Marghiloman were prominent

GENERAL PREZAN,
Rumanian Chief of Staff.

exceptions to the general rule of union. But save for a few politicians imbued with inveterate distrust of Russia, or warped by the bitterness of bygone conflicts, the Rumanians stoutly undertook the task that was before them. The Army had not been demoralized by defeat, and under the firm and skilful leadership of General Averescu and General Prezan, Chief of the Staff, it was steadily and thoroughly reorganized. How well this work was done and how excellent the material was shown by the "stubborn and invaluable resistance" to the enemy which, as Mr. Lloyd George declared in his message in August, 1917, to Rumania on the occasion of the anniversary

A RUMANIAN FRONT LINE TRENCH ON THE NORTHERN FRONTIER.

of her entry into the war, constituted a "magnificent example" of the strength which freedom gives to a free people. It was, first and above all else, in order to free the millions of Rumanes who live under Magyar oppression that the Rumanians of the kingdom accepted the fearful risks of joining the Entente. It was a tragic fate that the stormy dawn of democracy in Russia should have involved in a common collapse a country like Rumania that had given such an earnest of her strivings after the democratic ideals of the West. Nothing could have been more honourable than the constant faith of Rumanian patriots in their self-imposed exile that the Western Allies were determined not to sheathe the sword until they had attained the emancipation of the oppressed peoples and the security of the principles of free government.

The following Observations, dated May 16, 1918, were drawn up by the Allied Ministers at Jassy with regard to the conditions of peace imposed upon Rumania by the Central Powers :—

To complete the information we have already furnished, we communicate a statement of the conditions imposed on Rumania, which demonstrate in the best possible manner the insatiable greed and hypocrisy of German Imperialism.

By request of the Germans, one of the reports states that the treaty admits of neither annexation nor indemnity; but the territories taken from Rumania in the Dobrudja and in the mountain districts contain about one-tenth of the entire population, or more than 800,000 inhabitants, and extend to more than 26,000 square kilometres. Strategic reasons have been invoked to justify the rectification of frontiers. That pretext is absurd; if the Central Empires were to emerge victorious, Rumania would remain in the position of a German colony, and could not in any way constitute a menace to them; on the other hand, the victory of the Entente would re-establish the kingdom in its integrity, a fact which cannot but be recognized by our enemies. In reality, the most fertile forests of the mountain district are included in the territories joined to Hungary, and the principal object of these rectifications has been by this means to round off the sporting estates of the Hungarian nobles and to ensure the prosperity of the forest exploitation companies, in which so many persons of importance in the two Empires are interested, and which will thus be in a position to create a monopoly of building timber.

The Central Empires have stated that the territories taken from Rumania were uninhabited. That is not the case. The district annexed to Hungary contains 170 villages, with a total population of over 130,000 inhabitants. This population is exclusively of the purest Rumanian stock, and has preserved its nationality through successive invasions in the mountain valleys, where it found an inviolable refuge during the domination of the Turk.

Finally, the monopoly in the exploitation of the forests and the sale of timber, as well as in the export of cereals, set up by the treaty to the profit of Germany, in reality represent a war indemnity, the payment of which will weigh heavily on Rumania for a long time to come. From this year onwards the profit which Germany will realize as a result of the difference between the real value of the cereals and the prices imposed will be considerable.

Furthermore, the Austro-Germans have enforced the concession to themselves of the right to fix the amount of cereals to be exported, and the valuation of this amount is to be made in relation to their needs, and not in relation to the abundance of the harvests. By virtue of this arrangement Rumania, even after the signature of peace, will be forced to submit to a measure of rationing which may well amount to famine. Finally, it is the Rumanian Government who must advance the price of the produce purchased by the Central Empires, opening for them a current account, which need not be settled till a later date and at the latter's convenience.

The treaty has laid down a time-limit within which the Rumanian Parliament are to approve its terms; no limit is provided for the exchange of ratifications; any unwillingness on the part of one of the interested Governments will thus be sufficient to ensure the indefinite prolongation to their profit of the enormous advantages which the Austro-Germans are still gaining from the state of war, which, in theory, still exists. The peace of 1913 has not yet been ratified by the Bulgarian Chambers, and this is a precedent which can be followed; besides, the ratification of the treaty by the Rumanian Parliament, which will certainly take place, can scarcely be considered as strictly legal. The two great historical Rumanian parties abstained from participating in the election of this Parliament, which thus took place under the pressure of the German occupation, before the Rumanian soldiers had been able to return to their homes in order to take part in it, and in pursuance of an electoral law which had been abrogated by the Parliament dissolved by the Marghiloman Ministry; this former Parliament was alone qualified to set up the new electoral system on the basis of universal suffrage, which had already been voted in principle. The names of the candidates in this pretence of an election were submitted for the approval of the German authorities, who, in any case, were already in possession of all necessary guarantees owing to the previous appointment of M. Marghiloman and to the abstention of the pro-Entente party.

Far from giving Rumania partial freedom, the present peace will complete her subjugation and her ruin; Germany will continue to occupy her territories, even after the ratification, which, as we have seen, she can put off as long as she may wish; the navigation of the Danube, the posts and telegraphs, and the railways remain under German control; by request of the Rumanian Government, a German delegate has been appointed to each Ministry. War material and munitions are to be stored in the occupied territories and under the care of the German military authorities; finally, Rumania may only keep in being the forces necessary for policing her territory.

A German company for agricultural exploitation has been founded with a capital of 80 millions. It seeks to create a monopoly of Rumanian agricultural produce under the form of long leases, concluded under cover of the occupation, recognized by the treaties, and amounting, in reality, to expropriation in disguise. On the signature of the treaty of peace, the German command promulgated an order requiring the entire male population of the occupied territories, that is to say, of two-thirds of Rumania, between the ages of 14 and 60, to carry out such work as may be assigned to them. The penalties for disobedience include deportation and imprisonment, and, in some cases, which are not expressly defined, even that of death.

To sum up, Germany, by the treaty she has imposed on Rumania, has cynically ignored her own declarations. This treaty provides for the spoliation of the public lands, for the scarcely concealed annexation of the whole country, and, after the peace, for its barbarous exploitation, and for the draining of its resources to the profit of the conquerors; it turns Rumania into a veritable convict settlement, where the entire population is condemned to hard labour for the benefit of the conquerors. It is a fair example of a German peace. We

WINTER IN THE CARPATHIANS: TAKING SOUP TO THE FRONT LINE.

THE KING OF RUMANIA DISTRIBUTING DECORATIONS.

should consider it all the more closely, inasmuch as the German delegates informed the Rumanian delegates, who were appalled at being required to accept such conditions, that they would appreciate their moderation when they knew those which would be imposed on the Western Powers after the victory of the Central Empires.

The cruel position in which Rumania found herself was rendered none the more tolerable by the fact that the Allied Powers duly notified her that they could not but consider as null and void the dictated stipulations of the Bukarest Treaty, insomuch as they violated the rights and interests of these Powers and the principles for which they were still fighting. But beyond making this notification the Allied Governments had for the moment to content themselves with declaring their intention to do their utmost at the eventual Peace Conference to obtain a revision of the harsh terms imposed upon Rumania.

CHAPTER CCLI.

THE BATTLE OF CAMBRAI: SECOND PHASE.

THE GERMAN COUNTER-ATTACK AND ITS AIMS—THE BRITISH POSITION AND ITS WEAK POINTS—THE ATTACK ON OUR RIGHT FLANK—PARTIAL GERMAN SUCCESS—THE ATTACK ON OUR LEFT FLANK—BRITISH WITHDRAWAL TO THE FLESQUIÈRES RIDGE—GERMAN COMMENTS ON THE SITUATION—REVIEW OF THE FIGHTING OF THE YEAR —— POSITION ON THE WESTERN FRONT AT THE END OF 1917.

CHAPTER CCXLVI. dealt with the fighting during the British advance from November 20 to November 27, 1917. The 28th and 29th were days of comparative quiet, utilized by Sir Douglas Haig to relieve the troops who had been engaged in the previous days' fighting, and to prepare for a further attack against those tactical points held by the Germans which it was necessary to take before any further advance in this section could be safely made. In his dispatch of February 20 the British Commander-in-Chief did not specify what these were; but it is not difficult to enumerate them. They certainly included the Bourlon Wood position, i.e., the wood itself, the village and Fontaine-Notre-Dame, and La Folie Wood. For the main object of the advance was to deal with the German works up to the Sensée and the Hindenburg Line back to Quéant and Bullecourt. Indeed, this was expressly avowed in the opening paragraphs of the dispatch, which ran as follows:—

> If, after breaking through the German defence systems on this point (the Cambrai front) *we could secure Bourlon Wood to the north* and establish a good flank position to the east, in the direction of Cambrai, we should be well placed to exploit the situation locally between Bourlon and the Sensée River, *and to the north-west.* The capture of Cambrai itself was subsidiary to this operation, the object of our advance towards that town being primarily to cover our flank and puzzle the enemy regarding our intentions.*

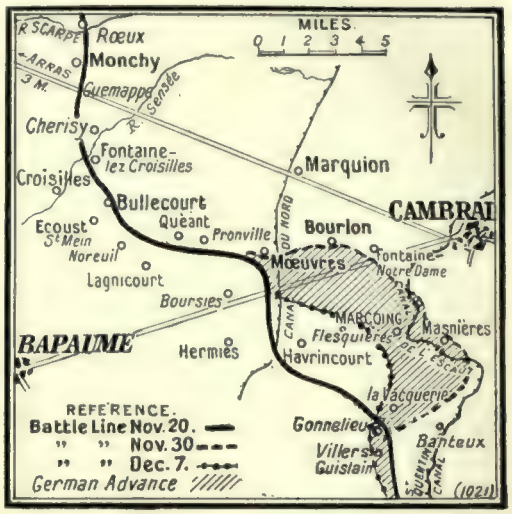
A mere local advantage such as the capture of Cambrai would have been of little value compared with the capture of the Hindenburg Line up to Bullecourt, i.e., the movement to the north-west was the real object of the operations. This is proved by the attempts on Mœuvres and the capture of Tadpole Copse on the 22nd, which would have been without meaning unless a north-west movement had been intended. Unless this could be made the Cambrai advance conferred no strategical advantage on the British, the only gain being the losses in men and material inflicted on the Germans, against which must, of course, be set off those incurred by us.

The British troops at the end of November occupied a very pronounced salient position, which in itself was distinctly less favourable for defence than the straight line previously held from Boursies to Gonnelieu. The length of the new line measured on the curve was about 20 miles, but that of the chord joining the two extremities of the arc, i.e., the old position, was only 8½ miles, and it therefore required two and a-half times as many troops to defend the new as were needed for the older

* The italics are ours.

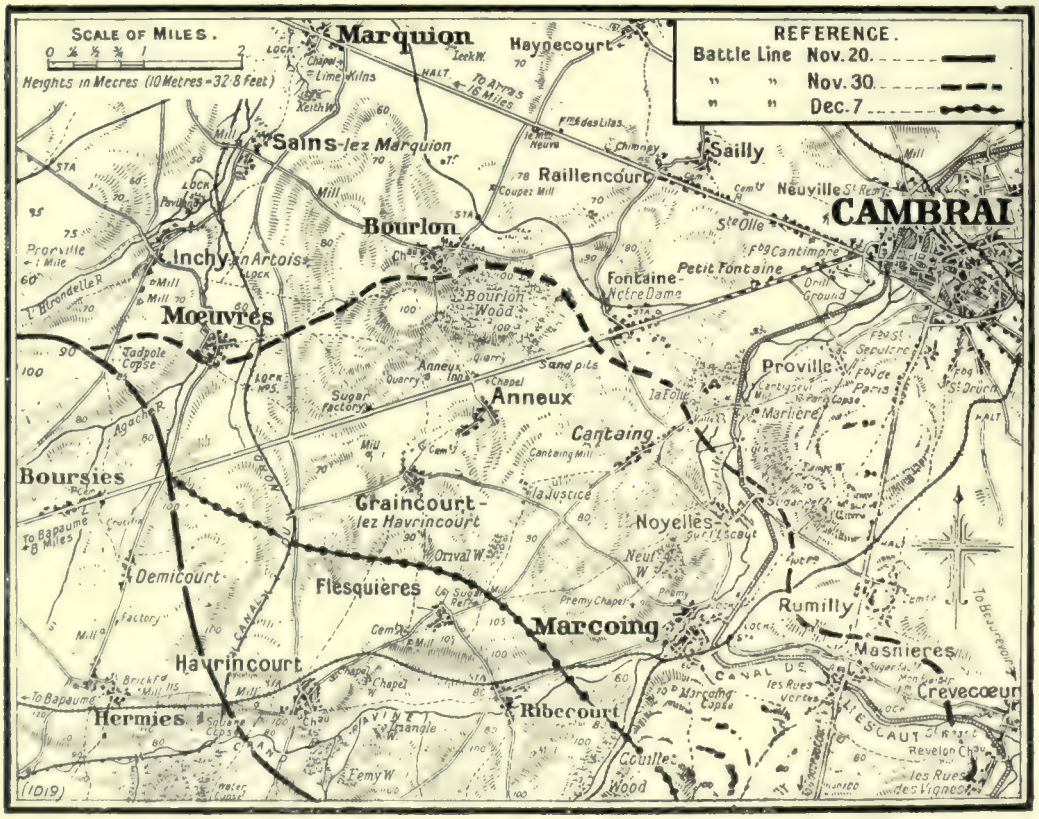
and shorter line. According to Sir Douglas Haig the new line from Cantaing to the Banteux Ravine measured about 16,000 yards. It ran from Cantaing by Noyelles-sur-l'Escaut across the land south of Rumilly, and back over the canal between Masnières and Crèvecœur to Gonnelieu. It is quite true that this distance is roughly about 9 miles. But, as Sir Douglas stated, it was evident during the last days of November that "the principal attack" would be delivered in the neighbourhood of Bourlon, and this probably accounts for his arrangements aiming chiefly at the defence of his left flank.

This was, indeed, justifiable provided the right flank was properly secured. But on the left flank a repulse would merely drive us back on our old position, while on the right an incursion in the Epéhy direction would penetrate our original line, which would be more serious. The German leaders understood as well as the British Commander-in-Chief did that the position we had won threatened the German works back to the Sensée. It was also pretty evident to them that the attack on the Hindenburg Line between Fontaine-lez-Croisilles and Bullecourt was part of a movement directed against their position back through



GENERAL MAP OF THE CAMBRAI SALIENT.

Quéant to Cambrai. The success of this largely depended on our maintaining a hold on Mœuvres, which in turn was difficult to do unless we also held the Bourlon position to guard our flank. Plainly, therefore, the Germans might be expected to make very earnest endeavours to recover the latter. But an offensive against our right flank also offered a fair prospect of



THE NORTHERN SECTION OF THE CAMBRAI SALIENT.

considerable success. The whole question to be decided by the British Commander-in-Chief was whether he, with the troops he had available, could hope to hold the new long line against the numbers the Germans could bring against it.

Sir Douglas Haig plainly thought he could It would be illuminating to know at what strength he placed the enemy and why he assumed the Germans had not sufficient numbers to do what was actually done against us.

There was also another point which had to be taken into consideration by Sir Douglas Haig. The right side of the British salient was from the nature of the ground very weak. The trenches along the Bonavis Ridge were mere shelter trenches constructed since the capture of this ground, with very little, if any, wire entanglement in front of them. We held none of the passages over the St. Quentin Canal; the enemy could therefore pass over them under the cover of night or mist, and November was the season when mists were prevalent, especially in bad weather such as obtained at the time. It is true there was a full moon which when visible would have enabled us to some extent to observe the movements of the enemy. But the depth of the ravine along which the St. Quentin Canal ran was sufficient in winter to prevent its being illuminated much, especially when filled with mist.

The right flank of the salient, therefore, from Lateau Wood back to our old line was decidedly weak by position. The end of the line on the Bonavis Ridge was particularly open to flank attack and liable to enfilade fire from the direction of Crèvecœur. To add to this danger, again to quote Sir Douglas Haig's dispatch, there was the fact "that from the Banteux Ravine southwards the divisions in line were weak and held very extensive fronts." Against this there might be set off the fact that we had been in possession of this part of the line for some months, and the defences were, therefore, much stronger than the line we had just captured, where they were necessarily feeble owing to lack of time to strengthen them. The dispatch also stated that the capture of the Bonavis Ridge added "to the security of the position further south." As we shall see, this was captured by the Germans in their first rush, and had, therefore, no influence whatever on the fighting from the Banteux Ravine to the

[Official photograph

A WIRING PARTY RETURNING.

south. It is plain, therefore, that the new right flank was unfavourable for defence, and the portion of the old line to which it was attached was only weakly garrisoned.

On the left we had no defensive position at all, unless the Bourlon Wood and its appurtenances were definitely in our possession. Up to the end of November we had been entirely unable to win and hold them. In the words of the dispatch, "We had not yet succeeded in gaining all the ground required for the security of this important feature."

In the last days of the month it became increasingly evident that the Germans meant to make a counter-stroke. The 12th Division had meanwhile effected some improvement in the position held opposite Banteux, and on the extreme left the 16th Division made a little further progress in the Hindenburg Line to the north-west of Bullecourt. Observations showed that more and more troops were being collected round Cambrai, while the constant artillery fire clearly proved that the enemy was registering ranges for the use of his guns in the annihilating bombardment preparatory to an infantry advance. This increased activity was not only shown against the new front, but extended to Vendhuille and beyond. But G.H.Q. considered that the main German attack would be delivered against the Bourlon Wood both on account of the tactical importance of the high ground there, of part of which we had obtained possession, and also because the enemy felt that if we were left in possession, the defences back to the Sensée would be gravely threatened.

The activity of the enemy, showing that an attack was imminent, led to special precautions being taken by the local commanders, especially from Villers-Guislain to the south. These included the distribution of extra machine-guns to strengthen supporting points, while the divisional reserves were brought nearer to the front fire-line. Special observation patrols were also sent out to give warning of any hostile advance.

The troops which were available to meet the coming storm were as follows: From Cantaing to the extremity of the right flank of the Third Army were, in order named, the 6th Division, Cantaing to Marcoing; on its right the 29th Division with the 87th Brigade at Marcoing, the 86th about Masnières, and the 88th Brigade in support about Gouzeaucourt

[Official photograph.

IN MEMORIAM.

The 20th Division held the line back from the right of the 86th Brigade, with which it was in touch upon the high ground, with the 12th Division on its right, and the 55th or Lancashire Division beyond it back to and including the Banteux Ravine.

Sir Douglas Haig's dispatch was by no means clear as to which were the divisions holding different parts of the line. It said distinctly that five were from Cantaing to the Banteux Ravine. The 6th and 29th were certainly stationed as given above. This leaves three for the ground back from Marcoing to the Banteux Ravine, and this is the number given in paragraph 10 of the dispatch. The 20th and 12th were undoubtedly two of these, and the third appears to have been the 55th or Lancashire Division, although the British Commander-in-chief did not say so. The distance these three divisions held was roughly four miles. Nor was any information given as to the division (see clause 10 of the dispatch) the northern half of which held the front from Banteux—but excluding it—to Vendhuille. What was it, and where was its other half? At any rate, this half division had to hold a length of at least three miles or only one-fourth less than the three divisions to the north of it. In the one case there was a division to every one and a-third miles, in the other the proportion was only a division to six miles. It is indeed true, as Sir Douglas stated, "that from the Banteux Ravine southwards the divisions held very extended fronts." Most emphatically the one in question did. He also added that the divisions at the southern part of our line were weak. Against this extension and weakness could be set off only the fact that this part of our defences having been in our possession for some months was more complete and better organized than the parts on the ground we had recently captured.

[*From a German photograph.*

WRECKED BRITISH TANKS IN BOURLON WOOD.

In rear of this portion of the British line were the Guards and 2nd Cavalry Divisions in reserve behind La Vacquerie-Villers-Guislain, apparently somewhere in the neighbourhood of Gouzeaucourt

The left of the British line, i.e., from the neighbourhood of Cantaing to Tadpole Copse, was composed as follows. On the extreme left was the 56th Division, with one brigade at the point of junction of the old and new lines and the remainder in front line to the east. To the right of this division was the 2nd Division, then the 47th in Bourlon Wood, the 59th to the south of Fontaine-Notre-Dame. To the right the 6th Division formed the connecting link with the 87th Brigade (29th Divi-

sion) at Marcoing. The reserve to this part of the line was the 62nd Division, which had been heavily engaged, as we know, during the first five days' engagements. A fresh South Midland Division was being brought together farther back, and there were two cavalry divisions within two to three hours' march and another a little more distant. Altogether there were some 13 infantry divisions and four cavalry divisions available.

So far for the British Commander-in-Chief's view of the situation and the arrangements he made to meet the coming onslaught.

What were the German intentions?

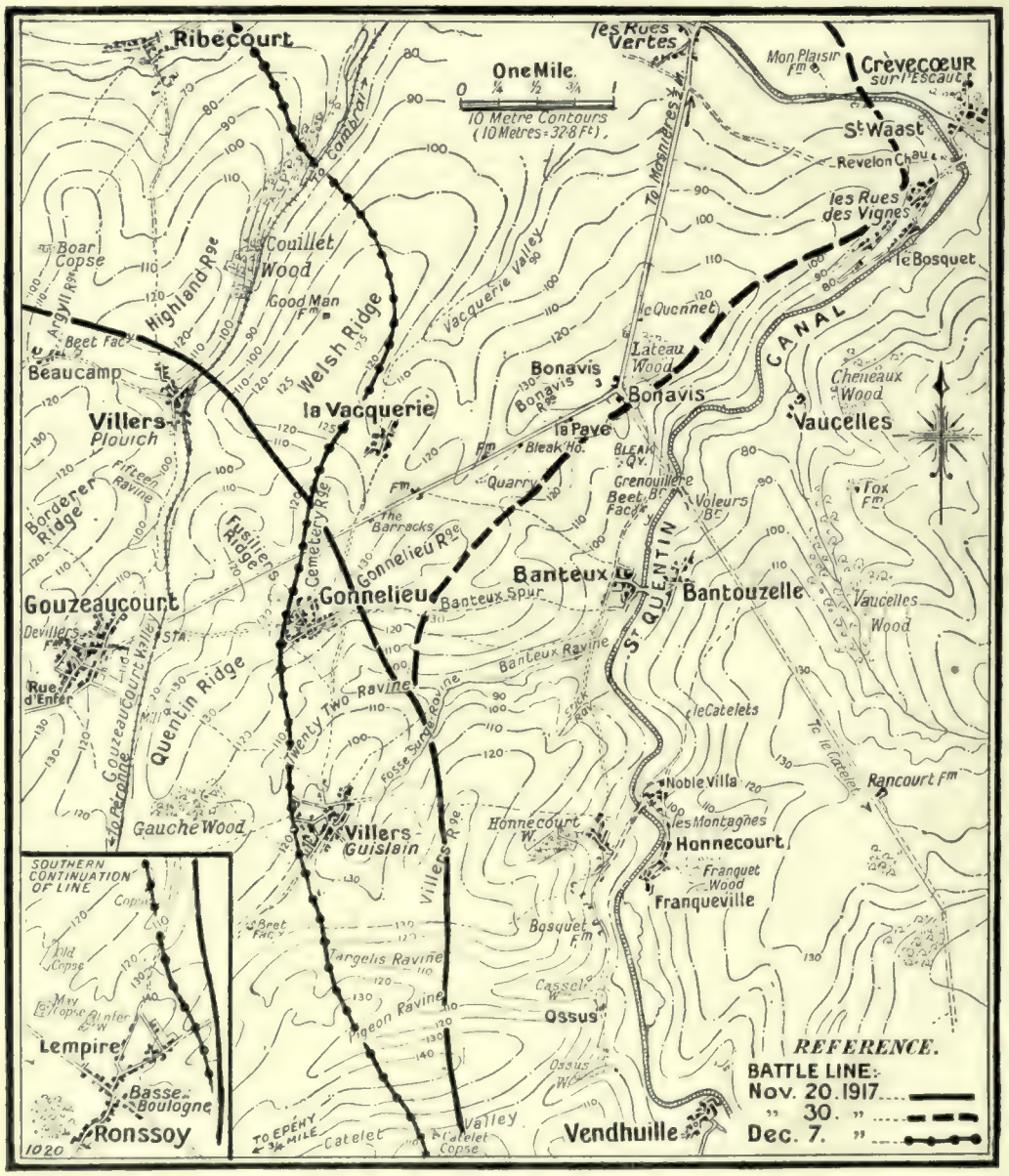
The following order was issued on November 29 by General von der Marwitz, Commanding the Second German Army:—

Soldiers of the Second Army.

The English, by throwing into the fight countless Tanks on November 20, gained a victory near Cambrai. Their intention was to break through, but they did not succeed in doing so, thanks to the brilliant resistance of the troops who were put into line to check their advance.

We are now going to turn their embryonic victory into a defeat by an encircling counter-attack. The Fatherland is watching you, and expects every man to do his duty.

Put into practice, this meant that both the right and left flanks of the British were to be attacked, and it was intended to concentrate the energies of the German on penetrating the



THE SOUTHERN SECTION OF THE CAMBRAI SALIENT.

base of our salient where it joined on to the old line. If this were done, von der Marwitz hoped to capture a good part of the troops we had thrust forward towards Cambrai. Our whole line would, of course, be attacked, but the main idea was undoubtedly not merely to drive us back but to cut off as many of our troops as possible. It is evident that the long line we held would particularly lend itself to such an operation. The enemy could select his points for attack without our being able exactly to determine where they would be; he had the advantage of the initiative and could choose. We could only do our best to hold him, and concentrate against him our reserves should he break through our defences. He knew exactly what he was about to do; we could only conjecture. It is the disadvantage common to all defensive attitudes.

The attack was to be delivered against both flanks, that on our right flank being some two hours in advance of that on our left. The German Commander had thoroughly gauged the position, viz., that our right was the easier flank to assault There was to be no very heavy artillery preparation directed against our right wing before the attack was launched against it. There had been, of course, a certain amount of shelling, but nothing which could be looked on as the forerunner of an attack. But about 7.30 on the morning of November 30 the artillery fire became more intense all round, and a number of gas-shells were thrown into our lines. Just as the Germans had been surprised by the absence of the preparatory fire before the British infantry attacks on November 20, so 10 days later the troops of our right flank, although expecting in a general way to be attacked, did not regard the comparatively light artillery fire—i.e., light in proportion to the usual preparatory storm of shells before an assault—as indicating an immediate advance. Especially was this the case as they could hear the far heavier fire being directed against the Bourlon Wood position. Here the shelling had been particularly heavy on the 29th, and on the opening day of the counter-attack, when the actual preparation began at about 3 o'clock against the British salient at Bourlon (about 7.15 only against the right flank), it reached a great intensity, and many gas-shells were thrown into the wood.

The infantry attack on the southern flank of our position extended from Masnières to Vendhuille, a front of about 10 miles. The village of Masnières does not seem to have been so severely pressed at first, von der Marwitz depending on the attack from Crèvecœur to take the defences of Bonavis Ridge in flank, and also those on the south side of the Scheldt Canal, especially about Masnières. Pressing up along the ridge, the German troops would be able to take the gun positions on it, and would be in rear of the Masnières defences. This, then, formed the objective of the right extremity of the German attack.

Their left centre was directed on Banteux. From this village two ravines ran up into the

GENERAL VON DER MARWITZ.
Commanded German Troops in the Cambrai Sector.

British position. The more northerly led on to the Gonnelieu Ridge towards La Vacquerie. The other began as the Banteux Ravine which led directly on to the point of junction of the old and new lines of entrenchment. Just short of this point it forked; one depression, the Twenty-two Ravine, led past Gonnelieu to the rear of Villers-Guislain, the other, the Fosse Surge Ravine, ran past the front of this village. A glance at the map on p. 78 will show how formidable was the danger threatening the British position if these attacks were successful. The Bonavis Ridge, so far from being a protection to the south flank, became a danger as the German advance up it led to a separation of the Masnières troops from those on the ridge, while penetration up the ravines named broke up the British line

[From a German photograph.

CHURCH OF FONTAINE-NOTRE-DAME.

into fragments which could no longer hold out in their original places. Villers-Guislain and Gonnelieu would certainly fall, and La Vacquerie would be threatened from the Bonavis Ridge, which the enemy would recover with Lateau Wood, Bonavis and Le Pavé. The safety of the British new position at this part of the field, therefore, depended on the Germans being checked at their first rush, and prevented from turning the left flank of our right wing, and also from penetrating at the points named. All this is precisely what our troops failed to do.

The bombardment did not arouse those concerned to a sense of the coming assault; it was short, not very severe, only "enough to keep our men under cover" . . . . . "No steadily advancing barrage gave warning of the approach of the German assault columns, whose secret assembly was assisted by the many deep folds and hollows typical of a chalk formation, and shielded from observation from the air by an early mist. Only when the attack was upon them, great numbers of low-flying German aeroplanes rained machine-gun fire upon our infantry, while an extensive use of smoke shell and bombs made it extremely difficult for our troops to see what was happening on other parts of the battle-field or to follow the movements of the enemy." In other words, von der Marwitz had thoroughly appreciated the position, knew the best way to attack it, and carried out the attack with considerable acumen.

The first warning was the artillery fire at 7.15 a.m., and the German assault was delivered in considerable force about 7.30 a.m. Four divisions were led against the British line between Masnières and Banteux, both inclusive. Here we had, it will be remembered, three divisions facing east, while the 29th held the ground around Masnières and along the Scheldt. The Germans were seen coming southwards in waves from the direction of Rumilly and from Crèvecœur, pushing west on both sides of the canal. Our line here ran from the north side of the canal near Crèvecœur north-westwards, passing mid-way between Masnières and Rumilly, across the Masnières-Cambrai Road, towards Noyelles. The farthest advanced posts were, perhaps, 1,000 yards north of the canal, with supports at the locks and bridge-head defences and reserves in the villages of Marcoing and Masnières.

The rush of the Germans from Crèvecœur brought them right upon the Bonavis Ridge, taking our trenches there in flank and rear. Continuing their advance, they drove back the gunners and took possession of a number of guns in position to fire on the ground near the canal between Marcoing and Masnières. On the left of this attack the Germans found

considerable resistance near Lateau Wood, but, driving onward, they took Bonavis and Le Pavé, and continued up on the road from Bonavis to Gouzeaucourt, i.e., somewhat to the south-east of La Vacquerie. It will be easily understood that at many points parties of troops who had not given way at the first onslaught fought hard to stem the German advance, in which they were helped by machine-gun detachments that inflicted heavy loss on the enemy at short ranges. Some of the artillery also held out, though attacked at close ranges by the hostile infantry. Thus the 92nd Field Artillery Battery north-east of La Vacquerie drove back four attacks one after the other, notwithstanding that the hostile infantry reached on more than one occasion within 200 yards range. Finally, when losses and the impossibility of the teams removing the guns compelled the detachments to abandon them, they did not do so till they had removed the breech blocks, and so made the guns useless to the assailants.

On the German left centre the assaulting columns pushed up the Banteux Ravine and its two forks, the Twenty-two Ravine and the Fosse Surge Ravine. After penetrating the British front trenches without much difficulty, they swarmed round the villages of Villers-Guislain and Gonnelieu, which were thus taken in flank and rear and quickly captured. East of Villers-Guislain so sudden was the German inroad that our troops on the high ground on Villers Ridge were still fighting hard without knowing that the enemy was already between them and the village. South of this village there was a strong point known as the Limerick Post. It was held by men of the 1-10th Liverpool Regiment and 1-5th King's Own Royal Lancaster Regiment. So cut up into local struggles was the fighting that these gallant men held out the whole day long against many fierce attacks.

The Germans had so far progressed with ease, and moving still onward captured Gouzeaucourt by 9 a.m. About the same time the outer defences of La Vacquerie were reached. It had taken only an hour and a half to gain all these successes, i.e., to drive our troops out of the northern end of the right flank defences and make a considerable penetration at the junction of our new and old lines.

The two main German assaults were accompanied by a general forward movement against

[From a captured German photograph.

BRITISH TANKS IN ACTION AS SEEN FROM THE AIR.

our line, and thus the defenders found themselves attacked on all sides.

While the two brigades of the 29th Division holding the canal line Marcoing to Masnières had been able to hold on, the brigade in reserve had found itself attacked by some of the foremost Germans. The men were at first a little surprised and some confusion arose. But they rapidly recovered and held their ground.

On the extreme south end of our right the German attack extended to a point between Lempire and Ronssoy, thus including part of our old line, which here was composed of detached points about a hundred yards apart. When the Germans threw their heavy masses against this section they were easily able to penetrate it not far from Ronssoy, where the enemy came on in successive dense waves, after drenching our posts—which were in patches of rough quarried ground—with gas. Our troops here fought very stoutly, and, though it was impossible to prevent the enemy from breaking through, some advanced positions were held, and a defensive flank was formed, which was maintained throughout the day. Another assault also broke through our line a little higher up; and still farther north, the front of two battalions was attacked, and they had a hard struggle against heavy odds.

As soon as the attack was reported the local reserves, which were behind Vaucellette Farm, were brought up. They met the Germans coming over the open, charged into them, and succeeded in holding them until reinforcements came up. The Germans were then driven back through and beyond the sugar factory here, which remained thereafter in our hands.

More to the south the enemy had also been held back, and our troops, digging a hasty line, checked him from advancing towards Epéhy. Before noon the rush had been finally stopped, and as the Guards and cavalry came up and counter-attacked the German line began slowly to give way, until by dusk we had regained half of the ground we had lost.

It will be remembered that the Guards were in reserve behind our right wing. The local reserves had done something to hold back the German advance, but were not in themselves sufficient to do more than check it. But a request for assistance had been sent to the Guards, and about midday they came up behind Gouzeaucourt and at once counter-

[Official photograph.

A GAS MASK PARADE.

The Sergeant is examining the masks to see that they fit and are in good order.

[Official photograph.

ROCKETS FOR SIGNALLING TO THE GUNS.

attacked this village, took it, and drove the Germans back toward the St. Quentin Ridge. The 5th Cavalry Division, which had gone back to rest and was some 10 miles to the rear, was also summoned. It had no idea that it was likely to be wanted and the men were taking their ease, when suddenly they were called to arms. It did not take them long to mount, and they moved off at so rapid a pace that they reached the scene of action in an hour. The horses were tired, but the men were fresh, and it was as infantry not cavalry that they were now required. Received by a rousing cheer from the Guardsmen, they rapidly formed up on the British right and opened a smart fire. At this part of the field the Germans had been hard tried; they had been fighting for over four hours and had marched over three miles and lost heavily. The new reinforcements struck at their left flank. They hesitated and then fell back pursued by our fire. But there was no question of carrying the counter-attack too far, which would in turn have subjected it to a counter-stroke. Gouzeaucourt had been recaptured and the Germans driven out of Gauche Wood, and the British here took up a defensive position on the high ground of the St. Quentin Ridge.

The recovery of ground had been much assisted by some of the 29th Division, who, with a company of North Midland Engineers, held on throughout the day in an old trench near Gouzeaucourt. Further help was given by a brigade of Field Artillery belonging to the 47th Division, on the march to the front. Appreciating the position, it turned off from the line of route and came into action against the enemy.* Another valuable aid was derived from some men working on the railway running between Villers-Plouich and Epéhy on the ground east of Gouzeaucourt. They fell back to the neighbourhood of the village to get arms and then stood to help their comrades. Many of these men were Americans, others Canadians, and all alike held their ground and supported the Guards in their advance against the village.

Still more important help was given by the Tanks. Three battalions in all were on the point of retiring from the battlefield to refit when the attack broke out. Instead of continuing the movement, they returned at once to the fighting line and did most valuable service in

* Part of this division had been marching through the night, and the guns actually turned off the line of march to help their comrades.

THE GUARDS ASSIST IN SAVING A GUN.

the counter-attacks against Gouzeaucourt and beyond.

Altogether a considerable and good fighting force was brought into action for the counter-attack, and it re-established the battle.

The Germans had also advanced from Vendhuille and joined the attack on Villers-Guislain, but that was the limit of success of their advance, our troops in the trenches to the south holding their own.

The infantry attack ceased, but the German guns still continued to rake the British positions along both canal banks from the high ground round Crèvecœur and the lower slopes of the Bonavis Ridge. We well held La Vacquerie, and our troops there were in touch with those at Masnières, but from that point south we were behind Gonnelieu to the St. Quentin Ridge and thence back in a somewhat irregular line to our old position. Our loss of ground had been considerable, guns had been taken, and prisoners captured.

The result of the fighting on the line Marcoing-Masnières had been better. Here we had held our ground. The German concentration about Crèvecœur had been observed and the 86th and 87th Brigades had prepared for resistance. A report came from the former that the 20th Division had been attacked and driven back. The right flank of the troops in Masnières and Les Rues Vertes was thus completely exposed, but two companies from the supports were hastily pushed out to make a defensive flank. An attack was shortly after delivered on both sides of the Canal de l'Escaut, and was intended to cut the bridge serving as the means of communication between the troops on the southern side and those on the northern. By a determined attack on Masnières the Germans managed to push through and seize the outlying houses known as Les Rues Vertes. But they were speedily ejected by two companies of the Guernsey Militia Battalion backed up by servants and various oddments found round the brigade headquarters. One of the German machine-guns was captured and turned on them as they retreated.

While all this was going on to the south of the canal, fighting equally critical was taking place on the northern side. On the right some Fusiliers and other troops were exposed to attack by dense masses of the enemy, in which our rifles, machine-guns, and trench mortars did terrible execution. Throughout the morning the struggle was of the fiercest possible description, the enemy coming on again and again, only to fall back and leave the ground strewn with his dead. Shortly after noon there was a short pause, in which our defences were made as complete as possible again; then the Germans came on once more, one party towards Les Rue Vertes, the other from the Crèvecœur direction, advancing through the gap left by the retreat of the 20th Division. But here, fortunately, the 16th Middlesex with Stokes mortars held off repeated attacks.

The bulk of the Guernsey Regiment still held the main bridge over the canal and stopped several attacks. At four and five o'clock well combined attacks were delivered, the object of which was to capture Masnières and so isolate our troops still on the far side of the canal. The fighting was very severe on both sides of the obstacle, and in it troops from Marcoing took part as well as those at Masnières. But at the end of the day our men held their ground, and during the night they received fresh supplies of ammunition and food.

At Marcoing the fighting was also severe. The first attack came from the direction of Rumilly, and here also the seriousness of the situation was not understood. The first rush nearly carried the brigade headquarters. The troops were scattered about in cellars and billets in the village, and took some time to rally; and meanwhile the place was heavily shelled and bodies of Germans, who had pushed past Masnières on the south side of the canal, also threatened the village. As soon, however, as our men could be got together they quickly cleared the southern outskirts of the village and drove the enemy back to the south of Les Rues Vertes, and some companies were sent to help in the defence of the eastern side of that place.

The south side of Marcoing was thus cleared; but attacks from the Rumilly direction continued, and from here towards Noyelles, as around Masnières, fighting of the fiercest kind went on all day. But when night fell our line was intact and the troops still stood in the positions they had held in the morning.

We must now return to the fighting on the north side of the British salient. Here the preliminary bombardment had been longer and the German infantry advance did not begin

[Official photograph.

CARRYING SHELLS FOR 8-INCH HOWITZERS.

till shortly after 9 a.m.* Meanwhile an exceedingly heavy artillery fire was poured on our men. High explosive shells and gas-shells, the latter especially against Bourlon Wood, deluged the British trenches, and the lines of approach, or what the Germans thought to be lines of approach, were also brought under heavy fire. On this side, as on our right flank, the Germans struck at the junction of the new line with the old in pursuance of their plan of breaking through the base of the salient with the view of cutting off the British troops holding it. In each case the penetration, it will be noted, was not made exactly at the junction of the old and new lines, but inside the extremity of the new. Thus on the right Villers-Guislain and Gouzeaucourt were aimed at; on the left Mœuvres. Of course this did not preclude, or rather it would be more accurate to say it required, a continuous attack on our whole front. For, if the irruptive strokes were successful, then our troops, turned in flank and pressed in front, would have been pushed back in confusion and large captures of prisoners would have been made. At least that was the German theory. Fortunately in practice it failed because of the fighting capacity of the British soldier, who stuck doggedly to his work and declined to feel himself beaten.

Sir Douglas Haig gave no estimate of the number of divisions employed by the Germans, but if his estimate of the number made use of against the right wing from Masnières to Vendhuille, viz., five and "portions of two others," was correct, it is quite certain from the severity and repetition of the attacks against our northern flank from Bourlon towards Mœuvres, some seven miles, that it would not be unfair to put the number of German divisions at eight or more, of which at least five were used in the first onslaught between Bourlon and Mœuvres, three being employed against the spur towards Mœuvres.*

The attack against the British left flank was conducted on the enemy's shoulder to shoulder plan, such as had been employed in the earliest stages of the war against us in the retirement from Mons, and also at the First Battle of Ypres, and on many subsequent occasions. The men were in masses, probably company

* Sir Douglas Haig's dispatch was somewhat contradictory with regard to the time. He stated that against our right flank "the attack began *between* the hours of 7 and 8 a.m., after a short but intense artillery preparation," in Clause 10 of the dispatch. Clause 11, para. 1, said that the northern attack was not launched till some two hours later, but in the second paragraph that it commenced "shortly after 9 a.m."

* During the next few days the Germans were constantly reinforced, and probably the number of divisions used against us was over sixteen and perhaps twenty.

[Official photograph.

LOADING AN 8-INCH HOWITZER.

columns, six ranks deep and close to one another. Such formations, it need hardly be pointed out, form ideal targets for rifles and machine-guns; but if the troops who compose them can be persuaded to continue the movement, irrespective of the losses they sustain, it is always possible that the remainder of these masses may arrive at the enemy's line in a numerical superiority to the troops at the point attacked. If not, in addition to the heavy losses they must necessarily sustain in the advance, they will suffer still more heavily in retreat. For men turning their backs on the enemy can no longer fire, and thus their opponents, relieved to a great extent, at any rate, from infantry fire, can pour volley after volley into the retreating troops. This, under modern conditions of rapid fire, is the great disadvantage from which a force compelled to fall back suffers.

Now this is exactly what occurred on the left wing of the British. During the morning and afternoon five principal attacks were made against our troops, and at one point 11 waves of Germans advanced one after the other to the assault. The whole formed a determined attempt to break down our resistance by sheer weight of numbers thrown against the British line. The 47th Division held on with grim determination to Bourlon Wood, which was covered with a rain of gas-shells. A standing wood like Bourlon was an ideal target for this purpose. The gas-shells with percussion fuses could be counted on to burst against the trees, and consequently it was hoped to produce such an atmosphere in the wood that even with their good gas masks the British would not be able to support it. But, on the other hand, it must be remembered that, if our men were driven out by this means, the German infantry could not, with their inferior gas masks, attack until the gas had diffused away.* It was, therefore, not altogether advantageous to the Germans, and this was one reason, no doubt, why the greatest weight was given to the attack against our position along the ridge from Bourlon to Mœuvres, i.e., about two and a-half miles. The wood might be put out of action, but the penetration of our line was best to be done outside it, and the open ground was better for their subsequent advance.

At a point west of Bourlon the first attack carried the enemy through the front line, over the ridge and down the southern side of it. But it was met by such severe artillery fire from our guns, firing at close ranges from the other side of the valley between the Bourlon position and the line Demicourt—Graincourt,

* The German gas masks, owing to the shortage of rubber, did not fit so tightly as ours.

that all formation was broken up, and the dissolved crowd was forced to turn tail. The local reserves attacked in their turn, and closed the gap which had been made.

In the afternoon the Germans again succeeded in penetrating at this point, boring a gap between two battalions of the London Regiment. But the two battalion commanders, gathering up all the men they could lay their hands on, including their headquarters details, once more restored the battle, and closed up the hole which had been made by the enemy. Along the whole line of the three divisions, the 56th, the 2nd and the 47th, the troops fought with great bravery.

At the commencement of the battle a company of the Royal Fusiliers, under Captain W. N. Stone, was engaged in sapping in a somewhat exposed position in advance of our line between Bourlon Wood and Mœuvres The artillery fire had become so strong that it was thought expedient to bring these men back to our main trench line. But before this could be done the German attack burst on them. Captain Stone, who commanded the company, ordered three of the platoons back, while he, with the fourth platoon under Lieut. Benzecry, formed a covering party to hold off the enemy until the remainder had reached the main position and organized the defence there. They accomplished this duty, and died to a man, gallantly resisting the Germans.

Early in the afternoon, when heavy masses of the enemy pushed forward west of Bourlon Wood, these were driven back at most points with heavy casualties. But at the right of the 2nd Division stationed here there was a line of posts furnished by the Berkshire Regiment. Three of these were isolated by the German superior numbers, but the remainder held out stanchly. The three, attacked in front, flanks and rear, resisted to their utmost, with no thought of surrender; where they fought there they died, after a prolonged struggle which lasted far into the night. When the three posts were won back, two days later, the masses of German dead almost covered the bodies of these brave men, and afforded ample testimony to the heroic nature of the defence they had made. The Berkshires were a regiment which had a long career of many campaigns behind it, but no deed more gallant on its records than the fight to death of this brave company.

It will easily be understood that these per-

(From a captured German photograph.)

CAMBRAI AS SEEN FROM THE AIR.

sistent attacks of the Germans, made with such determination but all without tangible result, could have been carried out only with heavy losses. One battery of eight machine-guns fired close on 10,000 rounds from each gun into ten successive waves of enemy infantry. Repeatedly, as the ebb and flow of battle produced projections of Germans endeavouring to force their way onwards, did our machine-guns catch these men in enfilade and shoot them down in heaps. Nor was our artillery behindhand in the combat. Heavy guns from the rear poured their shells upon the advancing enemy. Many of the lighter guns were brought up close to the front and shelled the enemy at close and devastating ranges.

Nor were the German guns without similar enterprise. Early in the fight some of the German infantry batteries came up at a great pace to the high ground near Bourlon village and commenced to fire at close range against the right of the 2nd Division, which held the ground from Bourlon village towards Mœuvres. They got off only a few shots against the King's Royal Rifle Corps before their detachments were completely wiped out. Nor did two battalions of infantry which advanced in line behind the guns fare much better. The fire of the British infantry and their machine-guns was so destructive that the Germans were speedily routed, the majority killed or wounded, and most of the others taken prisoner.

Again and again did the enemy attack, but his most gallant and persistent efforts were in vain. From the point of view of the British infantry, the position was ideal The Germans came on in close masses, they could do very little firing on the march, and the enemy's artillery had perforce to cease fire as the infantry got near to our men for fear they should hit their own infantry. Then was the turn of our riflemen. Pouring well-aimed rapid fire into a target they could not fail to hit, they carried death and destruction among the ranks of the foe. No troops, however brave, could continue to move against such a bayonet-tipped wall firing at such a rate and with such accuracy, and those Germans who still remained upright fell back before it.

On the left of the 2nd Division, on both banks of the Canal du Nord, there was also very heavy fighting at close quarters round Mœuvres. Beneath the village were many cellars which served to shelter the Germans, and from which they poured out in numbers when the time to attack arrived. The position here, at a point known as Lock No. 5, was held on both sides of the canal with no assured means of communication between them. There was, therefore, a fight in the dry bed of the canal between the two sides and also between

CAPTAIN W. N. STONE.
Commanded a platoon of Royal Fusiliers which sacrificed itself to delay the enemy.

the troops on either bank. In the bed of the canal the fight was chiefly done by bombing; on the higher ground it was more with the proper weapons of the foot-soldier, the rifle and bayonet, supplemented by machine-guns.

There was also a very bitter fight in the outskirts of Mœuvres itself. Our troops, after pushing back the Germans, occupied the low ridge of ground in front of the village, which gave them a tolerable position to resist any further attacks of the enemy. Near the village we captured two large howitzers and two field-guns. As it was impossible to bring them back, they were made useless to the enemy by the destruction of their breech gears. But neither here nor on any part of the Bourlon to Mœuvres front did the Germans succeed in driving back our men any more than on the left, where the 55th Division fought round Tadpole Copse. In Bourlon Wood itself, and to the right where the 47th Division was in action, the Germans

were equally unable to make any real progress. The end of the day which had seen so much bloodshed came without any advantage of moment being obtained by the assailants against our left flank. The stanchness of the three divisions which kept them at bay was a legitimate source of pride to themselves and to the British Army.

An incident on the Canal du Nord is worth

[*Canadian War Records.*

GERMAN GAS MASK.

notice. On its west side there was a company of the Essex Regiment, holding a post in a trench. In the rush of Germans it was surrounded, but managed to keep up the struggle although against far superior numbers. A large proportion of the officers and of the men were killed or wounded. The survivors, feeling how important it was to hold this post, which formed a great stem against the heavy current of enemies and kept them back from further progress at this point, determined to stick to it to the bitter end. Lieut. J. D. Robinson, Second-Lieut. E. L. Corps, Company Sergt.-Major A. H. Edwards, and Sergts. C. Phillips, F. C. Parsons, W. Fairbrass, R. Lodge, and L. T. Legg, the seniors of those left standing, all agreed that there they must maintain their stand. This resolution was sent back to the battalion by two runners, who were fortunate enough to get through unhurt. But it was impossible to send succour, and well into the night the noise of combat went on ceaselessly. Then it came to an end—our men were dead. But they had not died till they had exacted a fearful price from the enemy for the success he had gained over them. Every man fought like a hero and died one.

The outcome of the day's battle was that our right had been driven back to some considerable extent, and the position there rendered insecure. In the centre we had maintained our ground; but here again the situation was unsatisfactory, as our line formed a feeble salient, which could not be permanently maintained. On the left we had held our own

On the following day, December 1, the Germans shelled our positions very heavily from early morning, but they attempted no infantry attacks from the Rumilly area. On the exposed flank east of Masnières it was different, for very heavy attacks developed between half-past seven and eight in the morning. Some of our advanced posts towards Crèvecœur, by Mon Plaisir Farm, were driven in, and the Germans came on nine times. But all these assaults were broken by the machine-gun and rifle fire of the 29th Division. One group of four machine-guns, posted at a sugar factory on the eastern outskirts of Masnières, had opposite it masses of the enemy within 800 to 1,000 yards, and when those retired, over 500 dead were left on the ground.

By this time our men were so weary they could hardly move. Fresh troops were, therefore, sent in to help them. But an aeroplane which passed over signalled their arrival back to the enemy; immediately there began from all directions a furious bombardment, under cover of which the enemy came on again and made a last determined effort to rush the crossings of the canal and the ruins of Les Rues Vertes. For a time there was a confused mass of fighters, friend and foe inextricably mixed; but our men got the upper hand, and yard by yard the enemy was driven back. The canal crossings remained in our hands. Once more Les Rues Vertes was free of Germans, except the dead and 80 prisoners who remained in our hands. Our line was intact in its old position. But Masnières was now in a very dangerous position, liable to attack on all sides with the especial danger of a severe flank attack from Bonavis Ridge, which was completely in the German hands.

On our right it was plainly necessary to obtain a more secure position, and the Guards

THE LAST STAND OF THE ESSEX MEN AT MŒUVRES.

therefore, supported by Tanks, completed the capture of St. Quentin Ridge and forced an entrance into Gonnelieu. Here they captured 350 prisoners and took a large number of machine-guns. The fighting was of a determined character, as these two facts show. But our men were not to be denied and pushed on in spite of severe opposition, the Tanks proving of great value, as they were able to overcome strong points which the infantry unaided would have found it difficult to tackle. Thus at one point where the fire from a trench occupied by the Germans had brought our attack to a standstill, a Tank advanced. First of all astride, it poured a powerful enfilade fire in both directions; next moving up and down, it inflicted very heavy casualties on the garrison and completely destroyed their power of resistance. The infantry then came on and occupied the trench. It was then seen that 15 machine-guns had been silenced by the Tank and that its fire had filled the trench with dead enemies. Machine-guns on such occasions do not make many wounded; every man struck is hit by half-a-dozen bullets which effectually settle him. It is precisely in cases like this of close range and enfilade fire that the powers of the Tank-weapon are most clearly demonstrated.

More to the south a number of Tanks, acting with the two Indian Cavalry Brigades, which were dismounted, and some of the Guards, attacked Gauche Wood. It was only after a very severe fight that this point, so necessary to us for the defence of the right flank, was captured. The Germans, feeling how important it was to keep it as a supporting point for a further advance against this end of our line, did their best to hold on, but were unable to do so, although they resisted to the last. When our men finally got the upper hand, great numbers of German dead were found in it and many machine-guns; in one place four were lying within a radius of twenty yards with their detachments dead around them. Three field batteries, complete with their teams, were also seized by our men. The gunners and drivers had evidently fled before our advancing infantry.

We were not so successful at Villers-Guislain. The Tanks were subjected to a heavy artillery fire and only three reached the outskirts. But by themselves they could not take the village; the machine-gun fire from it stopped

[Official photograph.

A STRANDED TANK.

the advance of our infantry and the Tanks had therefore to be withdrawn.

The enemy also renewed his attacks on the Masnières position. No fewer than nine attempts to carry it were made by the Germans, but all were repulsed, as were others directed against our line about Bourlon, Fontaine-Notre-Dame and Marcoing. But the repeated assaults of the Germans on the Masnières section had caused heavy losses to those units of the 29th Division which held it, and with made with the troops on the right and with those at Marcoing.

The next day (December 2) a series of heavy attacks was made on Welsh Ridge and against La Vacquerie. Notwithstanding our opposition the enemy succeeded in pushing up the Welsh Ridge and gradually forced our troops back to a position west and north of Gonnelieu. On the 3rd these attacks were renewed in great force, and after some hard fighting we lost La Vacquerie.

[Official Photograph.

TANKS: THE FOREMOST HAVING A PORTION OF THE SHIELD REMOVED SHOWING THE INTERIOR.

the Bonavis Ridge in the hands of the Germans the latter were able to concentrate, under cover of troops brought across the canal near Crèvecœur, for a powerful attack on the right flank and rear of our troops there. Thus exposed to concentric attack it was undesirable to continue holding it, and during the course of the night the troops there retired to a line west of the village on the south side of the canal. The withdrawal was well carried out. Every wounded man was brought back. All papers were destroyed, the bridge-head defences were wrecked, all ammunition was either brought away or disposed of, and each unit of our troops passed back without molestation. This gave us a better defensive line, connexion being

During these two days there had been repeated attacks against the Masnières-Marcoing section, all of which were repulsed. But the capture of La Vacquerie put the flank and rear of our troops that still remained on the northern side of the canal in greater peril than they had been and in which it was undesirable to keep them. The whole of our line beyond the Scheldt was, therefore, drawn back to the south side, which involved giving up Marcoing as well as Masnières.

Attacks had also been of daily occurrence on our left wing, but there we had held our own. On December 4, except in the neighbourhood of La Vacquerie, there was not much fighting, but the attitude of the enemy showed

he had not given up the offensive, although for the moment there was somewhat of a lull. But it had become evident to the British Commander-in-Chief that one of two courses must be adopted; he must either withdraw to a shorter and more defensible line or undertake once more the capture of Bonavis Ridge. To stay in the salient position north of Flesquières, with the defences of our right flank crumbling away day after day, was impossible, especially as it was clear that there was no prospect of firmly establishing our line on the Bourlon position.

Haig, therefore, determined to withdraw to the Flesquières Ridge, rounding off the right about half a mile behind La Vacquerie, then running past the north of Ribécourt, about one and a-half miles north of Havrincourt, across the Canal du Nord, to our line on the Boursies-Cambrai road. This position was about two and a-half miles at its deepest in advance of our old line, and corresponded roughly with the Hindenburg Reserve Line. It gave us the advantage of its solid and well-constructed German dug-outs for the shelter of our troops during the winter months.

The movement was commenced on the night of the 4th-5th by the withdrawal of our troops from the positions held north of the Flesquières Ridge, and gradually our men were drawn back from the other positions until, by the morning of December 7, the whole of the Third Army was in its new position. The retreat had been accomplished without any material interference from the enemy. The most important of the enemy's defences which we had occupied were destroyed, and those of his guns which we could not remove damaged so as to render them useless. On the afternoon of December 5 he began to suspect our retirement from the northern positions, and sent his infantry patrols very cautiously forward. Some of these, as well as larger bodies, were caught in the open by our guns, and suffered heavily

The handling of our troops on the backward march had been very good, and much skill and courage were displayed at many points. A notable example was afforded by two companies of the London Regiment of the 47th Division. Much reduced in strength by the severe fighting in Bourlon Wood, they found themselves struck in flank from the east, and were practically cut off. But they forced their

[Official photograph.

ARTILLERY OBSERVATION WORK.

[Official photograph.

A HOWITZER UNDER SNOW-CAMOUFLAGE.

way through the encircling enemies, and fought their way back to the British line, inflicting heavy casualties on the foe as they fell back.

December 7 and 8 passed in comparative quiet, with only small infantry actions. The Germans were chiefly occupied in ascertaining just where the British line ran, and choosing their own positions accordingly. But the artillery on both sides was active. The German guns had been heavily reinforced, and shelled our ground both in front of and behind the line we occupied to draw an answer from our guns, and thus ascertain their positions. Ulster troops at dawn on the 7th made an important point. They captured some German trenches north of La Vacquerie, thus much improving our position there. On the 8th there was a little infantry fighting near Boursies, and a considerable amount of artillery fire directed against Flesquières.

The quiet continued during the 9th. Our troops were employed in consolidating the new line, while our guns directed their attention against the German working parties engaged in establishing their new position. The only infantry engagements were small affairs between outposts to the west of Graincourt.

On December 10 Scottish troops had a brilliant little affair early in the morning against a German post east of Boursies. The defenders were driven out and several prisoners taken. The next day an attempted raid of the enemy against one of our posts east of Epéhy was repulsed. At other points along our front our patrols encountered three of the Germans' and beat them back, and they also attacked and broke up some of their parties working on their new line and dispersed them.

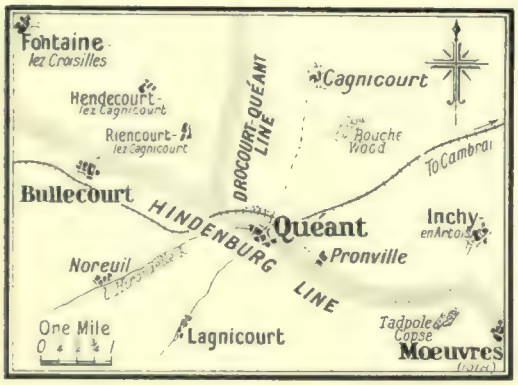
For the remainder of the year there was nothing of moment to report on the Cambrai front. Encounters with hostile patrols were frequent, but of no importance. During the night of the 15th-16th, however, a hostile party attacked one of our posts west of Villers-Guislain, but was driven off; and on the 16th the Germans made another attack on the defences north of La Vacquerie, which also was repulsed. Snow began to fall on this date, and more than five inches had fallen by the morning over a large part of Northern France and Belgium. The next day there was a partial thaw, so that the roads became deep in slush, which much hampered movements.

The German effort to crush our troops in the Cambrai salient had proved futile, and had, moreover, been very costly. When the time

came for us to withdraw, the movement had been made with entire success.

This German counter-thrust, with its initial gains, had seemed for a time to open the possibility of a great success to them; that it did not was entirely due to the bravery and fighting capacity of the British troops which opposed them.

The Germans were naturally not contented with the position at Bullecourt. Our penetra-



THE BULLECOURT SECTOR.

tion of their line there formed a threat of a still more vigorous advance by the British forces in this direction. A counterstroke was, therefore, to be expected at any time. On December 12 it was made.

At 6.30 a.m. the Germans opened a very heavy artillery fire against the line we held between Bullecourt and Quéant. It was the preparation for an infantry attack against that part of the line bombarded running between the east of Bullecourt down to and including Riencourt, something under a mile in length. The main assault, which was made with the greatest vigour, was on the left of the attack, against the point where our line coming back from the captured portion of the Hindenburg Support Line formed a somewhat acute angle and therefore a weak spot. A heavy barrage was put on our support lines behind it to prevent reinforcements from coming up. The German attempt north of this section was not pressed home and was beaten off without difficulty on our part and with considerable losses to the enemy. We also captured some prisoners.

Against the special point of attack the enemy's endeavours were more fruitful. He entered the extreme end of the salient near Riencourt and endeavoured to push up from it along our trenches on either side. Severe fighting lasted here with slight intervals during the whole day; but the Germans did not succeed in winning more than their first success had given them, which was about one-tenth of the ground we had won in the fighting here between November 20 and 30.

There can be little doubt that an attempt was made to penetrate the British lines, and thus intimidate the British Commander-in-Chief and render him anxious for the left flank of the troops in the Cambrai sector. But as it was carried out with only one infantry division in front line, the 16th Bavarian, with another, a Saxon, in support, which did not come into action, it was plainly not a very serious endeavour so far as the whole line attacked was concerned. The Germans knew better than to believe that 5,000 yards could be attacked and held by one division (certainly not more than 7,000 infantry, or roughly 1½ men per yard), of which a considerable fraction must have been employed against the 500 yards seriously attacked; and if they had really meant business they would have sent the Saxon Division without hesitation to back up the Bavarians engaged round Riencourt. They did not do so. However, at the end of the day they still held the 500 yards they had wor

[Official photograph.

BRITISH SOLDIERS HELP A FRENCH OFFICER IN DIFFICULTIES.

at the local salient. During the day the enemy's artillery fire was also directed in this region against Croisilles and Noreuil, i.e., against villages both behind the line attacked, to hinder the sending up of supports. This was the last serious attempt to reverse the position the British had won on the Cambrai sector.

At other parts of our line up to the banks

of the Yser there were from time to time small fights but nothing of moment. The Passchendaele position still provoked from time to time small incursions, but there was no systematized endeavour to drive us off the ridge. Thus on the 10th Polygon Wood and Passchendaele were heavily bombarded, and there was artillery and aerial activity north of the Lys and south of the Scarpe; raids attempted near La Bassée and Klein Zillebeke were repulsed without difficulty. These were typical of the kind of action going on day after day when weather permitted; but the snow and frost damped down the ardour of the Germans and we were content with the position we held.

A more important attempt was that made on the 23rd against our positions in the neighbourhood of the Ypres-Staden railway, in which the Germans succeeded in driving back our advanced posts for a short distance over a front of 700 yards; but they did no material damage to our position. The last days of the year were signalized by somewhat more serious endeavours. On December 29 the attempt against the Ypres-Staden railway was renewed, but was completely worsted by our artillery fire. The next day at dawn powerful attacks were made over a length of two miles against our positions on the Welsh Ridge spur. North of La Vacquerie and on our left against our new positions south of Marcoing the Germans gained some small advantages, though they lost the greater part of these by our counter-attacks on the 30th and 31st, which captured some prisoners. The more important part of the positions on the Welsh Ridge was completely recovered, but the enemy still kept some of his gains, not of special importance, near La Vacquerie and Marcoing. A further attempt was made against some 1,200 yards of the Welsh Ridge. Although on the southernmost portion of the attack the Germans succeeded by the use of liquid fire in temporarily occupying one of our trenches, they were driven out by our offensive return, and on the rest of the section assaulted the endeavour was completely repulsed. This finished the fighting of the year.

[Official photograph.

SANDBAGGED BOOTS AS A SAFEGUARD AGAINST SLIPPING.

Some German opinions on the advance have already been given in Chapter CCXLVI. Let us now note a few of the German comments on the second stage of events. To begin with.

A COUNTER-ATTACK IN THE SNOW.

the *Hamburger Nachrichten* on November 27 said: "At present the situation on the Inchy-Bourlon-Banteux front is so favourable to us that the great aims of the English may be said to have broken down. . . . One can already say that the English plans are making no progress but have collapsed in their initial stage."

resulted in a certain improvement in our position at Banteux, especially north of Gouzeaucourt, while on the other fronts of our new line all the savage attacks of the English infantry and Indian cavalry were repulsed. In the northern arms of the pincers we were not idle.

The writer went on to admit that the German right wing "was obliged to confine its activity to defensive tactics on account of the heavy (English) attacks on both sides of Mœuvres,"

[*Official photograph.*

EAST LANCASHIRES MARCHING THROUGH A VILLAGE.

The *Norddeutsche Allgemeine Zeitung* on December 3 remarked:

After the first shock of the surprise was over, for the English owed their momentary success on November 20 solely to the element of surprise in the attack, the enemy must have realized the impossibility of breaking through our front in this way, just as he had realized it during his fruitless attempts to attain his aim by bombarding our lines and then attacking.

The same paper went on to say:

The severe defeat which the English suffered on November 27 owing to our brilliant counter-attacks resulted in the almost entire cessation of infantry fighting for two days . . . [During November 29] the artillery battle increased in violence . . . and grew constantly heavier during the night. After this preparation the battle of Cambrai again began with renewed violence on the morning of November 30. . . . The events of November 30 have proved to the English that the German High Command has not yet been deprived of the initiative. That the fighting to the south-west of Cambrai had not come to an end with the success of November 30 was proved by the two following days (December 1 and 2), when hard fighting

but pointed out that in the centre the left and right wings of the Germans joined on the ground in front of Masnières.

The drawing is much the same as in our view of the battle, but the colouring is a little different.

The German Wireless reported:

On December 5 on the battlefield of Cambrai the English suffered a heavy defeat with enormous losses. . . . After initial gains of territory which the bells of St. Paul's announced to the people as a great victory, this supposed success has resulted in a complete breakdown of English hopes. Unnerved by our continuous counter-attacks, which commenced on November 30, and our unceasing artillery fire, and by the constant loss of territory which had been so dearly bought, the English were unable to withstand very long the pressure of German troops, and have retired from most of their positions after suffering very heavy losses. . . . Among the 9,000 prisoners taken at the battle of Cambrai were 208 officers. In addition to 148 guns and 716 machine-guns we captured a number of Tanks, which smashed up in great heaps lie on the ploughed-up battlefield.

[Official photograph.

HEAVY MACHINE GUN PREPARING TO ATTACK LOW-FLYING AIRCRAFT.

. . . The greater number of the 150 guns captured were taken south of Masnières, near Gonnelieu and Villers-Guislain, and also in the assault on La Vacquerie. . . . The German victory at Cambrai is the most important success in an offensive which has been gained by German arms against English superiority in numbers and material since the battle of Ypres in 1915.*

Lastly, towards the end of the year, the *Frankfurter Zeitung*, reviewing the military outlook for 1918, made the following statement:

The burden of all the crises in the next six months will fall exclusively on the Entente. The Central Powers have a strategical superiority and will be able to concentrate all their forces on the Western front, whilst the hope of the Western Powers that troops will be forthcoming from America can in no case be realized. Never again, and certainly not in the next half-year will Great Britain and France have such favourable opportunities for a general offensive as they had in 1915, 1916, and 1917, as strong forces will be released from another position and can be moved at will by our military leaders. Thus every hope of the Western Powers of success in a new offensive on the Western front will be frustrated. Moreover, our High Command has declared that it is possible to strike a decisive blow against France. The strategical conditions on the Western front are completely reversed, and the war will be directed against France. If there is a French crisis it may well be a military one next time, and the last of the present world-war.

* The Germans claimed to have put 107 Tanks out of action. Of these they stated that 75 were captured, and the remaining 32 destroyed between the lines.

The weather had not been propitious for aerial warfare during the Cambrai operations, but still our aviators had contrived to put in a good deal of useful work. On the first day of the attack, although after the early morning the weather was bad, yet the aeroplanes greatly aided the advance. Flying low, they made numerous attacks on the enemy's infantry and transport. The next day, although the weather was worse, they made a number of successful reconnaissances on the enemy's lines of communication, doing their best to keep in touch with our advancing infantry and report their position to the units in rear. It is significant that while the British managed to fly, no German aeroplanes were seen. On the 23rd our airmen accompanied the infantry in their attacks, flying up and down the line of our advancing troops at a low height, and helping with their machine-guns to disperse the German infantry. Reinforcements coming up and transport advancing along the roads were also attacked, and many bombs dropped on important railway junctions where rolling stock was collected and troops were in the act of detraining. This work was carried on

throughout the day, although the rain was at times so bad as to make flying almost impossible. During the night, a short period of fine weather enabled our enterprising airmen to continue the bombing of the enemy's railway stations. Altogether, it was a successful day. As the German aviators were in greater activity, encounters took place with our men. Six enemy machines were brought down, but we lost nine, including two which came into collision over the enemy's lines.

On the next day, the weather was still bad, but during the morning our aeroplanes carried out several observation flights, while bombs were dropped on the enemy and machine-gun fire was brought to bear on his infantry. In the afternoon it blew a gale, and flying was impossible. December 1 was bad for flying, clouds and mist rendering it almost impossible. But still our aviators contrived to carry out a considerable number of reconnaissances behind the enemy's battle-front. His columns coming up to it were bombed and fired on by the airmen's machine-guns. There were few

[Official photograph.

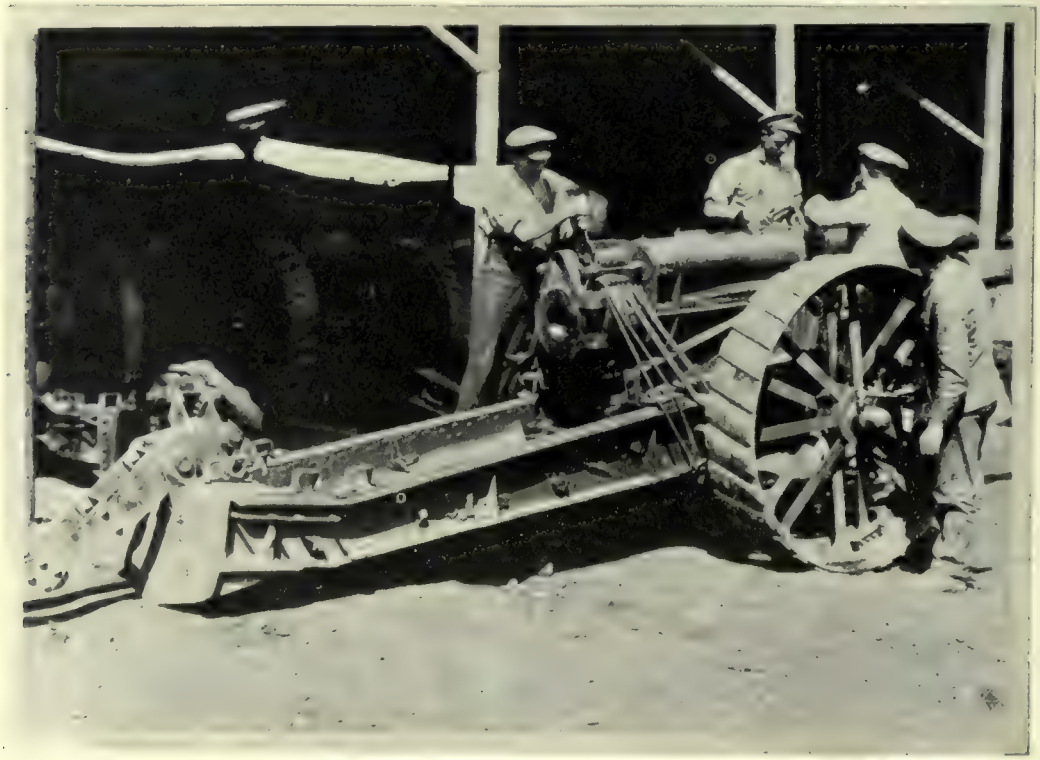
LEWIS ANTI-AIRCRAFT GUN.

combats, but two of the German machines were sent down and one was compelled to descend to earth. Our men thus certainly held their own. The boldness and the audacity with which they took part in the terrestrial struggle—and an important part it was—were of the greatest utility to the Third Army.

Sir Douglas Haig's view of the result of the fighting can be, to use his own words, "stated in general terms very shortly." The net gain in ground was the possession of over 12,000 yards of the German front line from La Vacquerie to the Bapaume-Cambrai road near Boursies. We had also captured over 10,000 yards of the Hindenburg Main Line and the Hindenburg Reserve Line. The villages of Ribécourt, Flesquières and Havrincourt had been taken. We had also captured 11,000 prisoners, and 145 German guns had been seized or destroyed. Against this must be set off the occupation by the Germans of a section of our front line between Vendhuille and Gonnelieu.

The public had been greatly elated at the news of the first success of the Cambrai operations, but it is always unwise to indulge in ovations over military events until time has shown them to be of some permanent character. On this occasion people jumped too hastily to the conclusion that a lasting victory had been won. Within a few days it was seen that further successes were not gained, and after November 22 that we were holding on with some difficulty to the positions we had won. On the right flank we *seemed* to be fairly well established, but this was far from being the case on the left. We had quite failed to hold Bourlon Wood and village or Fontaine-Notre-Dame; Mœuvres was not in our power, and although we captured Tadpole Copse, there was no domination of the Hindenburg Line back to Quéant. Then came the set-back from Crèvecœur to Vendhuille on the 30th, and some of the people who had claimed the advance of the 20th and 21st as a "victory," now called the set-back of November 30 a "disaster." Truth to tell, both terms were exaggerations, but while the first was a notable success, the second was certainly a notable failure.

It is evident that, on the whole, the Cambrai operations produced no very valuable success. We killed and wounded a large number of Germans, and took from them a good amount of war material and a considerable number of prisoners. We also won forward in the centre to a somewhat more favourable position



[Official photograph.

A HEAVY GUN UNDERGOING REPAIRS.

[Official photograph.

A GERMAN STRONGHOLD.

(the Hindenburg Main Line) than that which we had held before the movement. If it be certain that we immobilized German reserves which would otherwise have been sent to Italy, that was a considerable gain. But it is difficult, if not impossible, to judge to what extent this was the case; and if it were only inconsiderably so, then it cannot be said that the small forward advance was of any great utility. Assuredly the position on our right was no better than it had been before November 20.

It remains to be asked whether the point chosen for our advance was the correct one. Sir Douglas Haig stated that the capture of Cambrai was subsidiary to the operations against the German lines between Bourlon and the Sensée and to the north-west. Now it cannot be denied that that town was a very important point, a considerable railway junction and a large store depot. But its position was too far in advance of our general line to allow it to be permanently held unless the whole line were advanced to its level. This was impossible, if only because we had not enough troops for the purpose. But the German line from Cambrai to Quéant was open to attack without the risk of creating a pronounced salient, and the occupation of Quéant would have turned the German defences not only from that point to Bullecourt, but also from Quéant to Drocourt and to Cambrai. For this more limited objective our numbers would have sufficed, and it was as dangerous to the Germans as, if not more dangerous than, the advance towards Cambrai. It was quite certain, after November 21, when we were obliged to call a halt for 24 hours, that the period of unstrengthened German forces had come to an end. This was admitted by Sir Douglas Haig, who expected to have only 48 hours available before the Germans would be reinforced. So far for the general idea of this portion of the campaign.

No fault can be found with the conduct of the troops and their immediate leaders up to November 28. This was the day when the British Commander-in-Chief was first fully aware that the Germans were concentrating considerable forces against him (see ante p. 76.) On neither flank was the position we held suited for resistance. At Bourlon, on the left, the situation was extremely precarious and liable to flank and frontal attack. On the

[Official photograph.

PACK MULES.

right, the deepish valley through which the St. Quentin Canal ran was quite defiladed from our fire and allowed the concentration of

THE BATTLE LINES OF JUNE, 1916, AND JANUARY, 1918.

German troops, which could scarcely be observed during the long night and the misty morning. It was a case in which the defensive line, i.e., along the Bonavis Ridge, was practically also the outpost line. The defences were not strong, having been newly constructed, and in such a position it was certain, if our line were attacked in force, as it was, that it was likely to be penetrated; because in such cases the attacking force can be usually made superior to the defending force at the breaking-in points. Now the divisions holding it had been fighting continuously from the 20th to the 27th, for the first four days very hard. There is a limit to human endurance, and there is no doubt that when the German attack was made the troops fell back swiftly and in some disorder. But troops put to such a trial have often done so before, and will often do so again. There had come the time at which the soldiers were incapable of further efforts and yielded ground accordingly. The psychological moment had arrived that occurs in all fights and determines which side will win and which will lose. Our men had been sorely tried, their numbers greatly diminished, exposed to bad weather and in a position which they must instinctively have known was a dangerous one. Perhaps the wonder is not that they were beaten back but that they were not forced farther to the rear.

All this confirms the view that from the time when it was found impossible to secure our two flanks it would have been better to have fallen back at once to the Flesquières line, as was done on December 7-8.

Public disappointment at the set-back was very great, and was increased by the inability of the authorities to give any clear account of what had happened, or to take any definite attitude concerning the responsibility for what, on the face of it, was a costly failure

Ultimately the War Cabinet declared that, on full consideration of Sir Douglas Haig's report, it was satisfied that the Higher Command had not been surprised. Again, Sir Douglas Haig, in his dispatch as published in February, 1918, took occasion "to acknowledge the skill and resource displayed by General Byng throughout the Cambrai operations, and to express my appreciation of the manner in which they were conducted by him, as well as by his staff and the subordinate commanders." On the other hand, all trustworthy accounts of the experiences of the troops engaged—to say nothing of the embroideries of rumour—amply justified the demand for explanation, and it was not surprising that public attention became fixed upon such a point as the non-employment of French divisions, whose assistance was said to have been offered but refused. Moreover, in spite of all assurances, it soon became known that large changes were being made in Sir Douglas Haig's staff; ultimately the appointments were announced of a new Chief of the General Staff in France, Lieut.-Gen. the Hon. Sir H. Lawrence; a new head of the Intelligence Department, Brig.-Gen. E. W. Cox; and a new Quartermaster-General, Lieut.-Gen. Travers Clarke. Gradually, however, public uneasiness diminished, and it is sufficient to say here that the Battle of Cambrai was one of the main factors in the case for real unity of command in the Allied forces, the realization of which, too long delayed, was to yield splendid fruit in the campaign of 1918.

[Swaine.

LIEUT.-GENERAL TRAVERS CLARKE, C.B., C.M.G.,
Appointed Quartermaster-General, January, 1918.

[Swaine.

LIEUT.-GENERAL THE HON. SIR H. LAWRENCE, K.C.B.
Appointed Chief of Staff, January, 1918.

At this stage it will be convenient to summarize briefly the military events of a year to which the Battle of Cambrai formed a somewhat sombre conclusion.

At the beginning of 1917 the prospect before the Entente Powers was good. Germany and her Allies had been severely handled. At Verdun and on the Somme they had lost severely, and the Italians had inflicted great losses on them. In Mesopotamia and in Palestine the campaigns were beginning which were to culminate later in the conquest of Bagdad and Jerusalem. In Galicia, too, Russia had progressed. Against this must be set off the failure of Rumania and of Russia to make good with the armies of the North and Centre. So far as the Western theatre of war was concerned, with Italy holding the Austrians tight, and the forces of Russia, supported by the money and ammunition of her Allies, bidding fair to enter on a vigorous campaign, it was plain that Germany would scarcely be able to play more than a defensive

[Official photograph.

A TANK ATTACKING BARBED WIRE ENTANGLEMENTS.

part against Belgium, Britain and France But for an active offensive on the part of the Western Powers it was plainly necessary that Russia should be able to occupy and fasten to her frontier so large a proportion of the Army of Germany as to prevent her from adding largely to the force she was employing against the three Allies in France. Germany had some 80 divisions, the Austrians over 30, employed against Russia. If a large proportion of these were liberated for the Western theatre of war, it would certainly prevent any offensive on a large scale against Germany from that region. But the Revolution broke out in March and soon showed that the Russian Army was, as a fighting factor, no longer to be taken into consideration.

The first step of the Revolutionary leaders was to loosen the bonds of discipline ; the men no longer obeyed their officers, and indeed were encouraged not to do so. In the French Revolution much the same state of things was seen in 1792-93. But when the Jacobins seized supreme power they at any rate organized an army. The Jacobins of Russia had neither the honesty nor the capacity to do so. All along the Eastern front, fraternization, supported largely by German intrigue and German gold, took place between the two hitherto rival forces; all resistance except in a few isolated places ceased. The collapse of the Russian military power was complete, and the Allies of Russia had thenceforward to make their plans without relying in any way on her assistance. In the late autumn German divisions were brought across Europe to reinforce the armies in the Western theatre of war. On the other hand, the United States of America, disgusted at the ruthless barbarity of the U-boat campaign against the shipping of neutrals as well as that belonging to belligerents, first broke off relations, and finally declared war against Germany on April 5. But although it was evident that our new Ally would eventually be a potent factor, she, like Britain in 1914, had no sufficient Army immediately available. For a time, therefore, there was no military aid to be expected from her.

Italy, in the late spring, when the mountain passes were open to her troops, began (May 14) an attack on the Austrian forces opposed to her and gained important successes, and again in August a good advance was made along a 30-mile front. It looked as if Italy were about

to obtain really important successes, and even Trieste seemed within reach. But a change for the worse came about towards the last week of October, and by the end of the month the Italian Armies were back behind the Tagliamento and the Germans claimed to have captured 180,000 prisoners and 1,000 guns. Whether the losses of our Ally were as great as this is doubtful, but one fact is certain; instead of being a help to the Alliance it was now necessary for the Allies to help her. The help was promptly afforded, and French troops arrived on November 3 and British on November 4. But the Italians were still unable to withstand the Austrian onslaughts, and a few days later, when the passage of the Tagliamento was forced, had to retreat and stand at bay behind the Piave. In the mountainous regions on the left flank, when the Austrians tried to turn the Italian line, they were able to hold on to the Valdobbiadene-Asiago front and keep the mountains nearest to the plains till the end of the year.

It will easily be appreciated that however bright the hopes of the Allies were at the beginning of the year, the defection of Russia and the defeat of Italy put a very different complexion on affairs in the autumn. But still, although these two items prevented any great results, the year had not passed without considerable successes to be put to the credit side of the Allied account on the Western front.

It had been originally intended that the British and French should have undertaken a joint offensive early in 1917, but changes in the French commands led to delay, and the first important alteration in the British front was due to the German retreat to the Hindenburg Line, which abandoned a good deal of ground to the Allies. The new German line ran, roughly, from La Bassée-Lens-St. Quentin-La Fère to the Aisne about Berry-au-Bac. The enemy destroyed ruthlessly everything on the abandoned ground and made it a wilderness, while on his new front he had practically uninjured country behind him. This and other reasons affected the plan of the Allies. The German retirement was carried out at the end of February and beginning of March, and on April 9 the battle began, which was directed against Vimy Ridge and the German positions east and south-east of Arras. The troops employed were our First and Third Armies. The advance was successful; we took 20,000 prisoners, besides 257 guns and 700 trench mortars and machine-guns, and the enemy was driven back four miles in the six

[Australian official photograph.

HOT FOOD IN THE LINES.

days' fighting. Here the British Commander-in-Chief might have stopped the advance, because his plan was intended to attack the German lines more to the north, where more important strategical results might have been obtained; but it was necessary to continue the pressure on the enemy to draw his attention from the points where the French were about to make their attempt, and this was done by a series of minor enterprises up to the end of April.

General Nivelle, on the 16th, advanced on the Aisne and in Champagne, and won considerable successes, but at a heavy price. The progress, however, was not so great as had been expected, and General Pétain, who took over the command, made considerable alterations in the plan hitherto adopted.

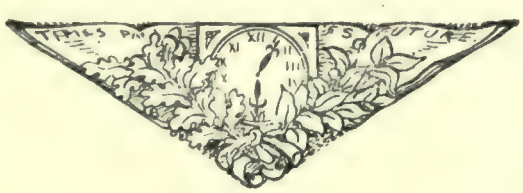
General Haig now determined to attack in the Ypres region, where our situation had never been satisfactory, situated as it was in a salient, liable to concentric attack. He began the operations for this purpose with the Second Army by the capture of the Messines-Wytschaete ridge on the south of Ypres on June 7. This was the scene of the remarkable mining operations by which the Messines ridge was blown up. The ridge, with the forward slopes, passed into our hands, and we took over 7,000 prisoners and many guns, machine-guns and trench mortars.

Further operations in the Ypres sector commenced on July 31. The attack was now delivered by the Fifth Army, brought up for this purpose and aided on its left by the French First Army. A considerable success was gained, 5,000 prisoners being captured. To the south of this attack another was undertaken by the British First Army, which carried important German positions round Lens. On September 20 a fresh advance was made between the Ypres-Comines canal and the Ypres-Staden railway. These attacks were continued at intervals, with a view to conquer the Passchendaele ridge, which gave a good command over the country beyond, and would have formed a useful springing-off place for a further advance. But the weather was bad and the season getting late, and when Passchendaele was captured, on November 6, the operations practically ended.

A glance at the sketch map will show that beyond the ground given up to us by the German retreat we had not made any great progress. At Ypres our position was better, but, with this exception, our gains were chiefly to be measured by the number of prisoners taken and the amount of material which had fallen into our hands. The same was true of the Cambrai section.

The French Armies, too, had not made any striking territorial gains. General Pétain had pushed back the Germans from the positions they had won on the west and north of Verdun in the battles fought between August 11 and 26, and, subsequently, in October, had stormed the powerful German defences round Allemant and Malmaison. He had taken some 20,000 prisoners and many guns in these operations.

Good as all these successes were, it must be admitted that, except as preliminary steps for the next year, the progress made in the Western theatre of war had by no means been striking.



CHAPTER CCLII.

THE FUELS OF WAR.

SUPREME IMPORTANCE OF COAL—RECRUITMENT OF MINERS—AVOIDABLE ABSENTEEISM—STATE CONTROL OF COAL MINES—LIMITATION OF PIT-HEAD PRICES—COAL FOR EXPORT—OPERATIONS OF THE CONTROLLER OF COAL MINES—REORGANIZATION OF COAL TRANSPORT—DISTRIBUTION IN LONDON—RETAIL PRICES—DECREASED OUTPUT—FINANCIAL PROBLEMS—FUEL ECONOMY—RESTRICTION OF GAS AND ELECTRICITY CONSUMPTION—FUEL RATIONS FOR ENGLAND AND WALES—RESTRICTION OF INDUSTRIAL CONSUMPTION—AMERICAN METHODS—FUEL RESEARCH BOARD—COAL CONSERVATION COMMITTEE—LIQUID FUEL—PETROL RESTRICTIONS—GAS TRACTION—ADMINISTRATIVE CHANGES—OIL FROM HOME SOURCES—DISTILLATION OF CANNEL COAL—BORING FOR PETROLEUM.

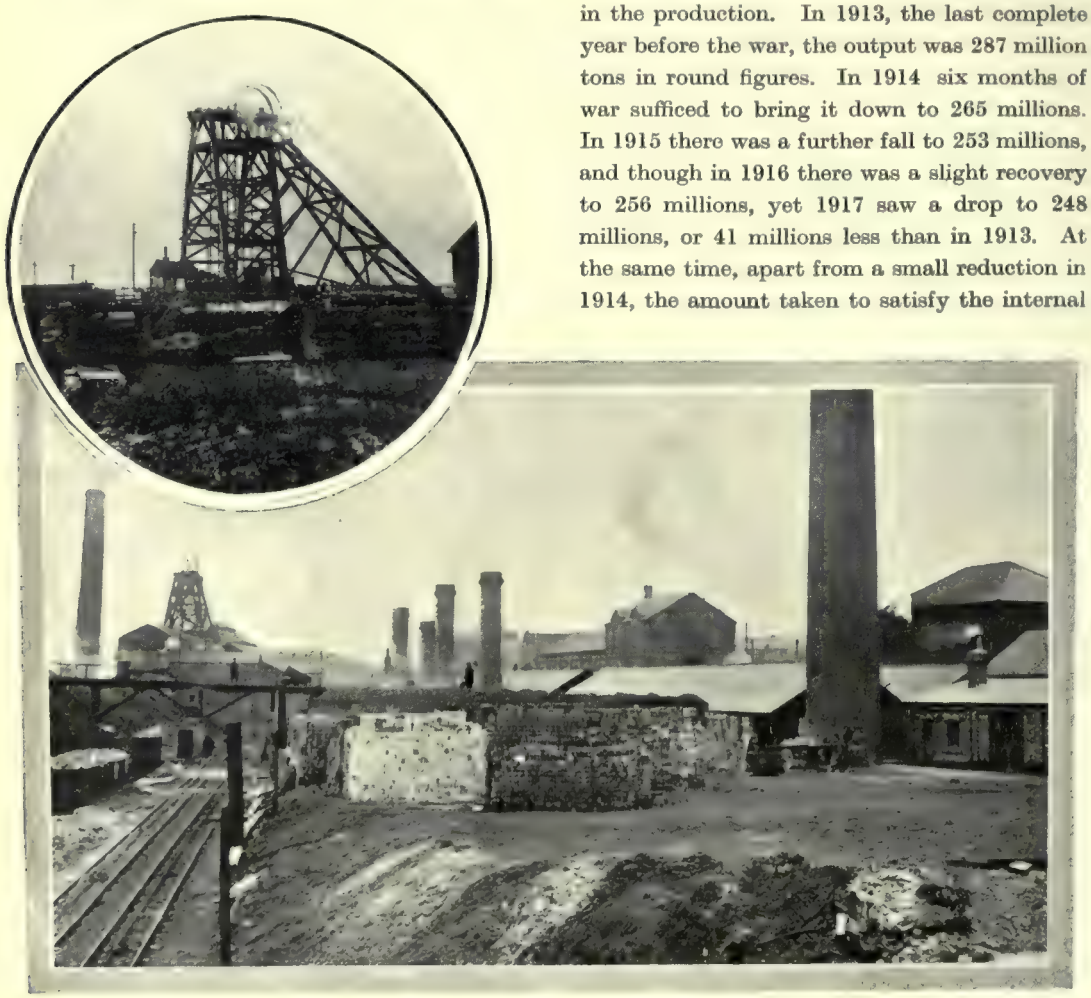
OF all the sinews of war, fuel is the most fundamentally important *Nervi belli pecunia infinita*, declared Cicero, but Lord Bacon showed a wiser discrimination in quoting Solon's remark to Crœsus (when in ostentation he showed him his gold), "Sir, if any other come that hath better iron than you, he will be master of all this gold." Without fuel there can be no iron, and without iron mere numbers of men avail nothing, for in its absence they can have none of the mechanical equipment that is essential to modern warfare. Fuel is required to extract from their ores the iron and other metals which are the material alike of guns and shells and of the machines that make them; to furnish the power for fashioning them in the workshops; to drive the trains that take them to the ports of dispatch; to propel the vessels that carry them across the sea; and, finally, to convey them up to the fighting line. At every stage in the manufacture and employment of munitions fuel is indispensable. Nor is it less indispensable in civil life, and no more certain means of bringing a belligerent to surrender can be imagined than depriving him of fuel, except perhaps depriving him of food. Fuel was therefore a factor of supreme importance in the Great War, and the problem of ensuring that it was available in sufficient quantities was as urgent as that of maintaining the armies in the field—in fact was a necessary condition of that maintenance.

Of the three great classes of fuel—solid, liquid, and gaseous—the last may be left out of account in a consideration of the resources available to the belligerents engaged in the Great War, since none of them except America possessed it to any considerable extent as a natural product, though made from coal it was used extensively by all. For liquid fuel or petroleum, essential for motor traction and aircraft, as well as for many naval vessels, the United Kingdom, France, and Italy had to rely almost entirely on imports; the Central Powers could command natural stores of it in the oilfields of Galicia, and in those of Rumania after they had made "peace" with that country; while Russia had rich oilfields in the Caucasus, and the United States was by far the largest single producer of oil in the world. The solid fuels, including wood, substances like straw, peat, and the numerous varieties of coal, are all of vegetable origin, and the last, which consists of fossilized or mummified vegetable matter grown in past ages, far transcends all the others in practical

importance. It is indeed the *articulus stantis aut cadentis Imperii.*

Before the war five countries—the United States, the United Kingdom, Germany, France, and Belgium—accounted for nine-tenths of the total known production of coal. Here, again, the United States was the largest single producer, contributing about half of the world's supply; the United Kingdom came next with about a quarter, and Germany third with about one-seventh, though she had also a large output of lignite or brown coal. These three countries all produced more than was required to satisfy their own requirements. France, Belgium, Italy, Russia, and Austria-Hungary, on the other hand, had to import coal from their neighbours, their domestic production being less than their consumption; and the case of France and Belgium became the worse with the outbreak of war in that large portions of the coal-producing areas of France were almost immediately seized by the Germans, while Belgium lost hers altogether. Water-power, converted into electricity, may be reckoned a fuel, or, at least, a substitute for fuel, since it can be used for driving machinery and heating furnaces; but though a useful subsidiary, it had not been developed in any of the belligerent countries to an extent that rendered it comparable in importance with coal.

Under war conditions the coal problem in the United Kingdom—and much the same was true of Germany—assumed three distinct, yet closely inter-related aspects—maintenance of the output from the pits, transport and distribution to consumers not only at home, but also in Allied and neutral countries, and economy in use, including both restriction of consumption and utilization to the best effect of such as was consumed. As regards the first of these, the outstanding fact was a falling off in the production. In 1913, the last complete year before the war, the output was 287 million tons in round figures. In 1914 six months of war sufficed to bring it down to 265 millions. In 1915 there was a further fall to 253 millions, and though in 1916 there was a slight recovery to 256 millions, yet 1917 saw a drop to 248 millions, or 41 millions less than in 1913. At the same time, apart from a small reduction in 1914, the amount taken to satisfy the internal



A DERBYSHIRE COLLIERY DURING A STRIKE.
Inset: A STAFFORDSHIRE COAL MINE.

AT THE PIT-HEAD.

needs of the country and to supply the Navy showed no diminution, and, indeed, tended to increase, because any reduction in the needs of civil industry was more than counterbalanced by increased activity in the manufacture of all kinds of munitions of war. In 1913 the consumption at home, including that of the Navy, was 189 million tons. In 1914 it fell to 184 millions, but in 1915 rose above pre-war level to 193 millions, and in 1916 to 200 millions, there being a slight fall to 198 millions in 1917. The net result of reduced output and increased domestic consumption was that the amount left for export and for bunkering steamships engaged in oversea trade was progressively diminished from 98 million tons in 1913 to 80, 59, 55, and 50 millions in the four succeeding years.

The primary cause of the reduction of output was the enlistment of miners. A committee appointed by the Home Office in February, 1915, to inquire into the conditions prevailing in the coal-mining industry, with the object of securing such organization of work and such cooperation between employers and workmen as would set free the largest possible number of men qualified for military service without interfering with the necessary production of coal, reported in June that in the first seven months of the war 191,170 "persons from coal mines" joined the forces. In the same period the net decrease in mine labour was 134,186 persons, or 13½ per cent. of those employed in July, 1914, and the total loss of output also 13½ per cent. This loss, the committee stated, would continue unless means were taken to prevent it, and it expressed the opinion that the time had come when very full consideration should be given to the question whether further recruiting among the miners should be encouraged.

Absenteeism was a second cause of diminished output. The committee found that while for the seven months preceding the outbreak of war, absence from work over all classes of mine workers on days on which the mines were open to work was on the average 10·7 per cent., it was 9·3 per cent. in the following seven months. In the reduction of this absenteeism, fully 4·3 per cent. of which it declared to be avoidable, the committee saw the best hope of maintaining or increasing the output; and it expressed the belief that if the urgency of the case were put before the miners there would be a great response, and that the Executive of the Miners' Federation was the

body best fitted to present such a case. On the question of the suspension of the Mines Eight Hours Act it did no more than suggest a conference between the owners and the workmen; such a conference was held a few months later, when, apart from divided opinions among the owners, the representatives of the men objected to any interference with the Act at that time, "in view of the efforts being

SIR GUY CALTHROP, Bart.,
Controller of Coal Mines.

made to secure greater regularity of work and less absenteeism on the part of the miners."

One measure that was adopted was the formation in many districts of pit committees—sometimes composed of workmen and sometimes of workmen and employers jointly—to check absenteeism by moral influence. The Government had a Coal Mining Organization Committee at work under the chairmanship of Sir Richard Redmayne, and not only stopped recruiting among coal miners, but procured the return of 11,000 ex-miners, serving in the home units of the Army, to work in the mines. At the end of June, 1916, 285,000 miners had joined the colours, but by the influx of outside labour the net shortage of labour in the mines had been reduced to 153,000. The output for the first nine months of that year was better by 2½ million tons than it was in the same period of 1915, but still the conditions were not satisfactory, and in some districts avoidable absenteeism was on the increase—in South Wales, for example, it was stated to have risen from 5·98 to 9·44 per cent. during the summer. Another effort was therefore made to reduce the evil. In October, 1916, a great national conference of representatives of the coal-mining industry assembled in London, and after listening to an eloquent appeal from the Prime Minister (Mr. Asquith), carried a resolution, proposed by the President of the Miners' Federation and seconded by the President of the Mining Association, pledging itself unanimously to do everything in its power by cooperation between employers and workmen to increase the production of coal by affording all facilities for regularity of work and by preventing avoidable absenteeism.

About this time South Wales, where there had been serious labour disputes in the middle of 1915, again became a centre of trouble. The coalowners there, on the plea of increased costs of production, were desirous of reducing the wage rate by 10 per cent. The miners, on the other hand, were asking for an increase of 15 per cent. While the cost of living had increased owing to the rise in the prices of food, they alleged that the owners were making higher profits, of which they refused any share to their employees, and in support of this contention it was pointed out that the average selling price of coal at the South Wales seaports was about 7s. 6d. a ton higher than it had been two years previously. Ultimately the Government stepped in and awarded the 15 per cent. increase demanded by the men, but before doing so they took a drastic step. For some time there had been whispers of impending State control of the coal industry, and perhaps the fact that they were authoritatively dismissed as being not only premature but misleading was a sign that they were not without foundation. Both sides, however, were equally surprised when it was announced that, acting on a new regulation made under the Defence of the Realm Act, the Board of Trade would take possession of the South Wales coalfield as from December 1, 1916.

The miners' feelings were somewhat hurt because they had received no notice of the Government's intention, and they also protested against State control being imposed on a single coalfield, and not upon all the coalfields of the kingdom. So far as the second point was concerned, they had not to wait long for satis-

faction. Before the end of the year it was stated in Parliament that State control would be extended over the coal-mining industry generally, and in February, 1917, it was definitely announced that all the coal mines would pass into the possession of the Board of Trade as from March 1. To carry out the new functions that were thus placed upon it, the Board created a new Department, Mr. (later Sir) Guy Calthrop, the General Manager of the London and North-Western Railway, being put in charge of it with the title of Controller of Coal Mines. This department, which was assisted by an Advisory Board containing representatives of both the coal owners and the miners, covered the whole field of production, wages, distribution, and price of coal. It took over the functions which had been performed by the Railway Department of the Board of Trade, specially enlarged for the purpose, in connexion with coal, and it brought within its ambit, if it did not actually absorb, the various committees and organizations that had been formed to deal with different aspects of the coal question. It may be mentioned that a tentative measure of unification had been previously entrusted to Lord Milner, who for some months towards the end of 1916 acted as supervisor of the supply and distribution of coal, being chairman of an informal committee consisting of himself and the chairmen of the

A MINE "ROAD,"
Showing method of propping the roof, and chain for hauling the trucks.

COAL AT THE PIT BOTTOM.

SOLDIERS DISTRIBUTING COAL FROM AN ARMY MOTOR LORRY IN THE WINTER OF 1916-17.

Coal Mining Organization Committee, the Coal Exports Committee, and the Central Coal and Coke Supplies Committee.

At this point, where the taking over of the control of coal mines by the State and the establishment of a special coal department mark a definite parting of the ways, some reference may be made to two questions which had obtruded themselves at an early stage in the war. One was the regulation of the prices charged for coal to consumers, and the other was regulation of its export.

In the first winter of the war there was a substantial rise in retail prices, especially in London, where the price of " best " coal reached 36s. a ton, as against 30s. for the same coal in the preceding year. Various explanations were suggested, such as congestion of the railways, which prevented adequate quantities from being brought to market, high sea freights, and shortage of output; but the chief point of agreement among the various interests concerned in the production and distribution of coal was that it was all somebody else's fault. The fact, however, was real enough, and towards the end of February, 1915, it led the Board of Trade to appoint a committee to inquire into the matter. In its report, which appeared at the beginning of April, this committee stated that it had concentrated its attention on London, believing that the causes which operated to raise prices in the metropolis were also those mainly responsible for the increases elsewhere. It described the initial cause of the increased prices, ranging up to 11s. a ton above the winter prices of 1913-14, as being deficiency of supply; and its suggested remedies included restriction of exports to neutral countries, further reduction of the freights charged on the interned steamers which the Admiralty had allocated for the coastwise conveyance of coal, and the utilization of suitable vessels condemned by the Prize Court.

The plan which ultimately commended itself to the Government was, however, to limit the price of coal at the pit-head. It was calculated that the costs of getting coal had increased by something over 3s. a ton, and accordingly the Price of Coal Limitation Act, passed in July, 1915, provided that colliery owners should not charge for any class of coal a price more than 4s. a ton in excess of that charged in the year ending June 30, 1914. The framers

of the measure, which applied only to coal intended for consumption at home, professed their inability to devise any means by which the prices charged to consumers by middlemen and merchants could be controlled, but in introducing it Mr. Runciman stated that the London merchants had proposed an undertaking that their selling prices should not exceed by more than a certain number of shillings the prices they paid for coal delivered to them in London from the collieries. In the first instance, this arrangement applied to the summer months, but later it was extended to the winter months, and a list of 373 London coal merchants who had agreed to this limitation of their profits was published in September. Nevertheless, in the winter of 1915, the public had to pay 35s. a ton for "best" coal. In the following winter, the last before the appointment of the Coal Controller, prices ruled equally high, and the consumers' troubles were aggravated by a shortage of men to make deliveries. Well-to-do people were in some cases obliged to use taxi-cabs or their own motor cars to fetch a couple of sacks from a coal depôt; and in some districts there were long queues of women and children waiting to get small supplies from retailers, and the services of military lorries had to be called in to assist in distribution.

To those who thought the deficiency in the supply was at the root of the trouble, prohibition of the export of coal seemed an obvious remedy. But, in fact, the country could not afford to stop the export. Coal was an extremely valuable means of paying our debts to other countries, and by taking the place of the gold which would otherwise have been required for the purpose it helped to maintain the rate of exchange. It was a bargaining counter that enabled us to arrange and pay for supplies of necessary materials, such as dairy and agricultural produce from Denmark and Holland, iron and steel and timber from Norway and Sweden, and copper and iron ore from Spain; and we had to send it to Allied countries like France and Italy in order that they might be able to maintain their manufactures of munitions and their transport. It must be remembered, too, that at least as regards neutrals we here came into direct competition with Germany, and however dire their straits for coal, the Germans always found some to barter with neutral countries for services and materials

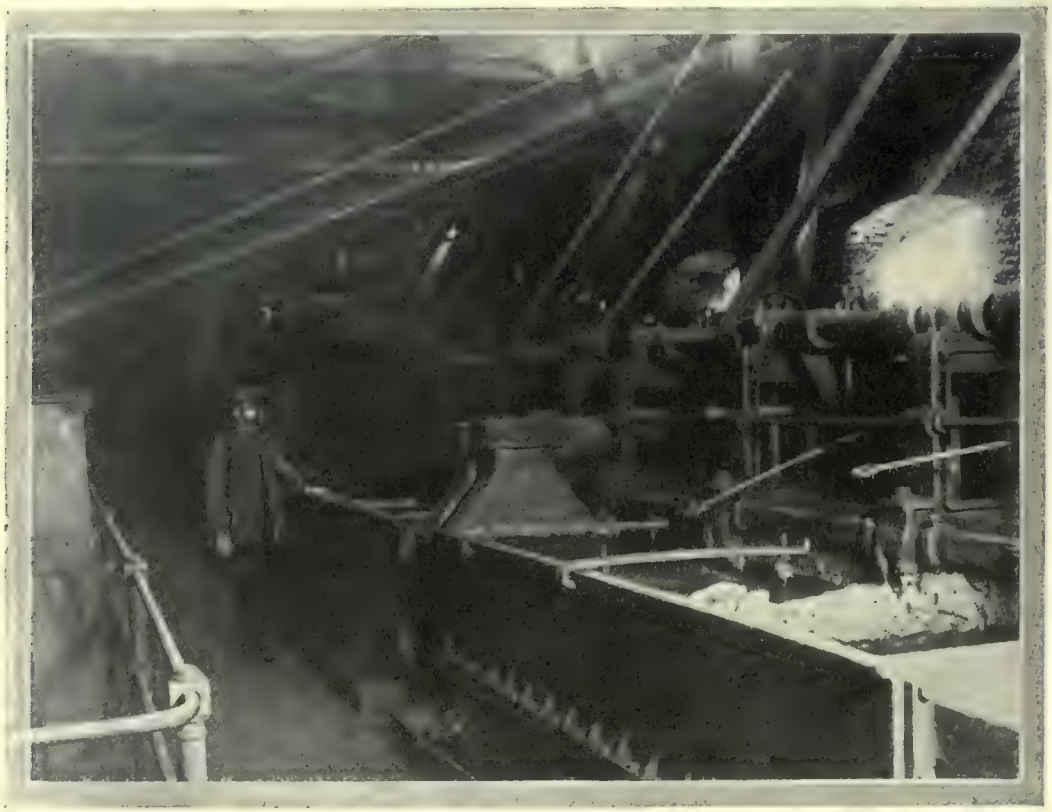
CARRYING HOME THE FAMILY COAL SUPPLY.

and for the promotion of "sympathy" with the German cause.

A definite effort to regulate the export was, however, made by the issue of an Order in Council, which became operative on May 13, 1915, prohibiting, except under licence, the export of coal and coke to all destinations abroad other than British Possessions and Protectorates and Allied Countries. About the same time the Board of Trade appointed a committee under the chairmanship of Mr. Russell Rea, M.P., to advise on all questions relating to the exportation of coal and coke. Three months later, by another Order in Council, the prohibition of free export of coal was extended to Allied Countries, the reason being that, a maximum price having been established in the United Kingdom, some control was required to check any tendency to send away large quantities of coal to other countries where no maximum price was in existence. Later, in December, 1917, export even to British destinations abroad was forbidden except under licence.

But the measures taken did not prevent an enormous increase in the cost of coal to consumers in Allied countries like France and Italy. In Rome, for instance, at the beginning of 1916 coal cost £6 a ton, and at the end of January £8 was quoted. These high prices were attributed partly to the lack of accommodation for unloading colliers when they arrived at Italian ports, but scarcity of shipping and consequent high freights also played their part. In the middle of January as much as 85s. a ton, and in February even 90s., was paid for carrying coal from Newcastle to Genoa, as compared with a rate of 7s. or 8s. current for several months before the war.

The need for regulating this situation was recognized, but the problem was not an easy one to solve. The case of France was dealt with first, and on June 1, 1916, a scheme arranged between the Government and the coal interests came into operation, under which all French orders for coal were passed through a central office in Paris, and thence forwarded to the various coal districts in the United Kingdom, where local committees distributed them and saw to their execution, also arranging for the shipping required. Maximum freights considerably below those ruling were fixed by agreement between the British and French Governments and a large number of shipowners,



WASHING COAL.

WOMEN PICKERS READY TO START WORK,
Showing the moving picking-belt.

and maximum prices were also arranged. A similar scheme for Italy was brought into operation somewhat later.

Neither of these schemes proved entirely satisfactory at first. In France complaints were heard at the beginning of 1917 that before they were established coal could be got, though at a high price, whereas afterwards supplies were short. In the schemes there was no form of general supervision over the chartering of neutral vessels, and the charterers, bidding against each other and often not caring how much they paid, forced up rates. As a remedy for this state of things, an Inter-Allied Chartering Executive was created to determine from time to time the rates that should be paid for the services of neutral vessels. The justice of the contention advanced in some quarters that these rates as first fixed were too low to attract tonnage was recognized when in the early part of 1917 those to France and Italy were increased by a substantial amount. But even so there was a considerable reduction in the amount of coal exported, accompanied by a serious fall in export prices. At the end of June, therefore, a new schedule of prices for coal sold for export or bunkering was issued; these operated as fixed prices in the case of shipments to France and Italy, and as minima in the case of those to neutral countries. Except as regards shipments to France and Italy, an Order issued in October raised them by 2s. 6d. a ton, that being the maximum amount by which the pit-mouth prices, fixed under the Price of Coal Limitation Act, were increased at that time, in order to meet the grant of a war wage made to the miners as from September 17. Subsequently the prices were further increased.

To return to the operation of the Coal Control Department, one of the first problems to be attacked was that of distribution. The aim in view was to secure not merely that it was efficient, so as to prevent a scarcity in one locality while in another there was a superabundance, but also that it was economical, in order that the strain on the railways might be relieved as much as possible, and the lines freed for other essential war traffic. This question had not been entirely neglected previously. In the second winter of the war a number of District Coal and Coke Supplies

Committees had been appointed in the various coal-producing areas to look after distribution, and in particular to ensure that munition firms and other important consumers received adequate supplies with as little friction and delay as possible. These District Committees were linked up with a Central Coal and Coke Supplies Committee in London, containing representatives of the Board of Trade, the Admiralty, the Home Office, the Ministry of Munitions, the Railway Executive Committee, the Coal Mining Industry, and the Coal Trade. In the first

WOMEN SURFACE WORKERS.

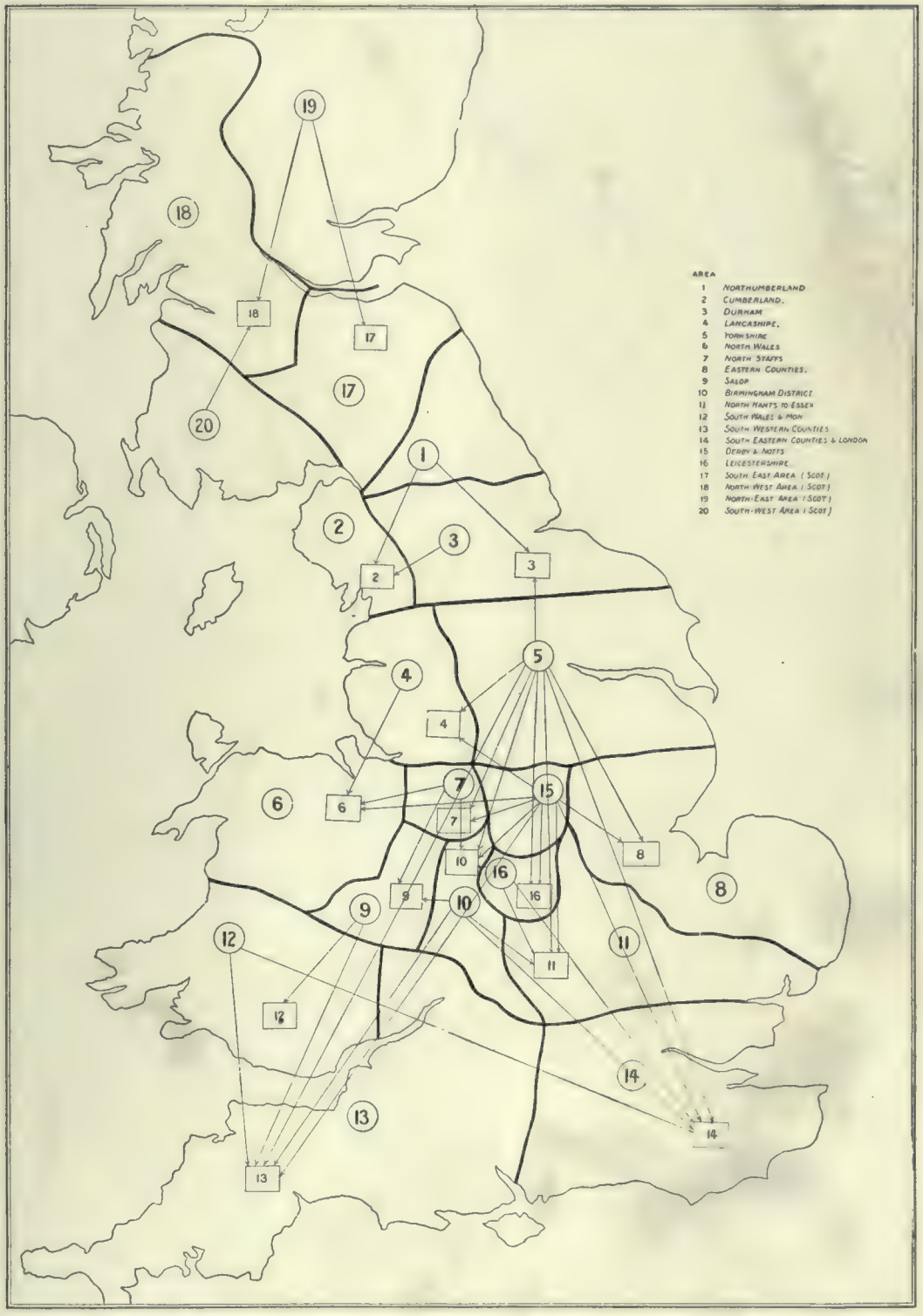
instance they were on a voluntary basis, but afterwards it was found necessary to make a regulation under the Defence of the Realm Act, giving the Government Departments concerned power, which was delegated to the joint secretaries of the Central Committee, to issue directions to secure priority for the delivery of coal and coke. With the appointment of the Controller of Coal Mines the Central Committee passed out of existence, though the District Committees were retained; and partly because of the wide powers entrusted to him, partly because of his expert knowledge of railway working, he was in a better position than it was to carry out the necessary reorganization.

Since, in general, each of the coalfields of the country produces the different varieties of coal suited to different purposes, it might have been supposed that each of them would supply the requirements of the areas geographically nearest to them. Such, however, was not the fact, and North Country coal on its way to South Wales might pass South Wales coal on its way to the North. This criss-cross distribution, really almost a case of carrying coals to Newcastle, was sometimes justified in cases where a special coal was needed for a special use; but, on the whole, it was unnecessary, and served merely to congest the railway lines and occupy rolling stock that might have been employed more usefully. It was therefore the object of the Controller of Coal Mines to abolish it as far as possible, and in doing so he hoped that 700 million ton-miles would be saved annually in the transport of coal.

The scheme he drew up for that purpose was embodied in a Coal Transport Order made under the Defence of the Realm Regulations, which was published in July, 1917, and came into operation on September 10. It was based on four main considerations:—(1) That consumption of coal should take place as near the producing point as possible; (2) that in

"DOING HER BIT."

view of the superior facilities afforded by the main trunk railway lines, the movement of traffic should follow these routes wherever possible; (3) that as far as possible the movement of coal should be in well-defined directions—north to south, north to south-east, north to south-west, and east to west; and (4) that an area producing less coal than sufficed for its



COAL DISTRIBUTION BY RAIL UNDER THE COAL TRANSPORT ORDER.

The lines are drawn from coal-producing areas, indicated by the figures within circles, to consuming areas, indicated by the figures within squares.

own needs should not send any portion of its output to other areas, and that an area producing more than was required for consumption within it should distribute the surplus only to adjacent or convenient areas. Great Britain

AT THE PIT-HEAD.

was accordingly divided into 20 areas—16 in England and Wales, and four in Scotland—of which 18 were areas of coal production, and a schedule, reproduced herewith, was drawn

COAL TRANSPORT SCHEDULE.

Area of Production.	Area to which Forwarding of Coal was Confined.		
	Steam and Manufacturing.	Gas and Coking.	House.
No.	Area No.	Area No.	Area No.
1. Northumberland ..	1, 2, 3	1	1, 2
2. Cumberland	2	2	2
3. Durham	2, 3	2, 3	2, 3
4. Lancashire	4, 6	4	4
5. Yorkshire	3, 4, 5, 7, 8, 10, 11, 14, 16	4, 5, 7, 8, 10, 11, 13, 14, 16	4, 5, 7, 8, 10, 11, 14, 16
6. North Wales	6	6	6
7. North Stafford ..	6, 7, 9	7, 9, 10	6, 7, 9
8. Eastern Cos.	—	—	—
9. Shropshire	9, 12, 13	9, 13	9, 12, 13
10. Birmingham and District	9, 10, 11, 13, 14	—	9, 10, 11, 13, 14
11. Northants to Essex ..	—	—	—
12. South Wales and Monmouth	12, 13, 14	12	12, 13
13. South Western Cos. ..	13	13	13
14. South Eastern Cos. and London	14	14	14
15. Derby and Nottingham	4, 6, 7, 8, 10, 11, 13, 14, 15, 16	4, 7, 8, 10, 11, 14, 15, 16	4, 6, 7, 8, 11, 14, 15, 16
16. Leicester .. .	10, 11, 14, 16	—	10, 11, 14, 16
SCOTLAND.			
17. South Eastern	17	17	17
18. North Western ..	18	18	18
19. North Eastern ..	17, 18, 19	19	17, 18, 19
20 South Western ..	18, 20	20	20

up showing the areas to which was confined the forwarding of coal from other areas by public railway for inland consumption. The scheme did not affect water-borne coal, whether export, coastwise or bunkers, anthracite, nor coke of any description, but even with these exceptions the Controller calculated that under it he would have to deal with about 42 million tons a year.

In connexion with the administration of the scheme, a policy of decentralization was adopted. The District Coal and Coke Supplies Committees which have already been referred to acted as the Controller's representatives, and they were empowered by him to make the necessary arrangements. They were to obtain from the colliery owners returns giving detailed information with regard to forwardings by public railway for inland consumption during the month of June, 1917, of each description of coal produced at the different collieries, and they were to arrange for meeting out of the tonnage available by diversion from other areas the requirements of purchasers whose supplies were affected. In this way it was considered that the minimum of inconvenience would be caused to all concerned. Collieries in each area were to be placed in direct touch with the factors, merchants and direct consumers whose supplies they would have to provide in future, and there would be no necessity for those who were affected by the scheme to go in search of new customers on the one hand, or of new collieries on the other. Naturally, some preliminary difficulties were encountered in putting the new arrangements into operation, and a certain amount of criticism was directed against the boundaries of the areas, which, however, were admittedly more or less arbitrary, and were based on the situation of the coalfields, railway facilities, and commercial and topographical considerations. Some grumbling was also heard from those whose sources of supply were disturbed, but it was recognized that the scheme was founded on reasonable principles, and was calculated to assist towards the desired end of economy of transport.

Having thus tackled the problem of distributing the coal from the collieries to the principal centres of consumption, the Controller turned his attention to its equitable distribution locally for industrial and domestic purposes. In the case of London in particular, his object was to prevent the recurrence of the troubles

that had been experienced in previous winters. To this end a Metropolitan Distribution Branch was established, and was charged with the execution and administration of a Household Coal Distribution Order, made by the Board of Trade in August, 1917, under the Defence of the Realm Regulations. This Order applied to the Metropolitan Police District and a number of adjacent districts, the area it covered containing some 2,000,000 separate houses and premises. Though it was primarily intended to ensure that the coal available was fairly distributed among consumers according to their needs, it really introduced coal-rationing, because it limited the amount of coal that could be obtained by any householder according to the number of rooms in his house.

For a house containing not more than 4 rooms the weekly allowance was 2 cwt., and for one containing 5 or 6 rooms 3 cwt. A house with 7 rooms was entitled to 1 ton a month, with 8 rooms to 1 ton 3 cwt., with 9 or 10 rooms to 1 ton 7 cwt., with 11 or 12 rooms to 1½ tons, with 13, 14 or 15 to 2 tons, and with more than 15 to 2½ tons. This scale of allowances applied to the period between October 1 and March 31; for the remaining six months of the year it was halved. Consumers had to send in requisitions for the amounts to which they were entitled, and coal merchants had to be registered before they could supply.

The Order came into force on October 1, 1917, and though some of the merchants received it with gloomy forebodings of confusion and chaos, and averred that left to itself the trade could have ordered the matter much better, Londoners had little to complain of in the following winter, and obtained their supplies far more regularly and comfortably than in previous years. One factor that contributed largely to this happy issue was that the Controller took special pains to see that adequate reserves of coal were accumulated in London. In May, June and July the quantity of coal conveyed from the pit mouth to the metropolis had exceeded by a quarter of a million tons any recorded supply during the same period of the year.

LANCASHIRE PIT-HEAD LASSES.

Outside the metropolitan area the distribution of coal was managed, without the compelling force of any special Order, by two main committees: (1) the Southern Counties Control, covering the south-eastern and south-western counties of England, with about 150 local distribution committees; and (2) the Northern Counties Advisory Committee, covering the rest of Great Britain, with about 250 local committees.

BOYS REMOVING STONE AND DIRT FROM THE COAL.

Another measure taken by the Controller was to extend the regulation of prices effected by the Price of Coal Limitation Act of 1915. For this purpose two Orders were made by the Board of Trade at his instance. The first, or Wholesale Coal Prices Order, issued on September 5, 1917, specified the maximum charges that factors and wholesale merchants should be entitled to make, and limited the additions, apart from transport charges, they might make to the prices they paid the producers. Coal sold for export, or for the manufacture of patent fuel for export, or for use in ships, was exempt from the provisions of this Order. The second, or Retail Coal Prices Order, issued a few days later, prescribed maximum retail prices for the sale of house coal throughout the United Kingdom with the exception of the metropolitan area, where the Controller had power to fix retail prices under the Household Coal Distribution Order. In view of the wide differences in the cost of coal in different localities, due mainly to costs of transport, but partly to differences in the maximum colliery prices and in local merchants' costs of distribution, the duty of fixing the maximum retail prices in each locality, by arrangement with the Local Government Board, the Scottish Office and the Irish Office, was assigned to local authorities—in England and Wales to borough, urban district and rural district councils; in Scotland to county and town councils; and in Ireland to borough and urban district councils, town commissioners, and rural district councils.

The basis on which these bodies were to fix the retail prices was that the net profit from sales of coal delivered by road vehicle from a depot, wharf or railway siding in lots of one ton or over should not exceed 1s. a ton. An addition of not more than 2s. a ton to the price thus fixed was allowed in the case of quantities less than one ton delivered by road vehicle, and a further addition not exceeding one penny per cwt. was authorized for quantities of 2 cwt. or less sold from dealers' shops. An investigation made by the Controller in a large number of localities in different parts of the country indicated that in general (except in the case of sea-borne coal) these regulations would result in prices from 6s. 6d. to 7s. 6d. a ton higher than those in operation for the twelve months preceding the outbreak of war. But these prices, of course, depended on the amount of the addition allowed under the Price of Coal Limitation Act, 1915, to the pit-head prices prevailing at corresponding dates in the twelve months

ending June 30, 1914; and when this addition was increased they were raised proportionately. In consequence of advances in the wages of the miners, the standard addition, which had been fixed at 4s. a ton in 1915, was increased by 2s. 6d. a ton in the autumn of 1917, and again by the same amount towards the end of June, 1918. At the latter date it thus stood at 9s. a ton for the country in general, and exceptionally at 11s. 6d. for South Wales. Londoners in the middle of 1918 found themselves paying 45s. a ton for "best coal."

As will be seen from what has already been said, questions relating to coal mining labour came within the Controller's purview. As regards wages, he was confronted at the end of August, 1917, with a demand for a 25 per cent. increase to meet the increased costs of living, but by negotiation he was able to induce the miners to accept a flat rate instead of a percentage increase, which would have chiefly benefited men who were getting regular work and were previously earning the highest wages. The arrangement finally arrived at was that there should be an increase of 9s. a week or 4s. 6d. in the case of boys—that was 1s. 6d. a day for each day on which a man worked or was ready and able to work, and 9d. a day for boys under 16 years of age. These increases were paid even when a pit was idle for lack of trade, and their object was to give some relief to men in the exporting districts who were suffering from irregular working of the pits, due neither to themselves nor to the coal-owners, but to shortage of shipping. Another advance on this "war wage" was arranged at the end of June, 1918. The Miners' Federation asked for an increase of 1s. 6d. a day for men and 9d. a day for boys, and these increases were granted as a war bonus subject to certain conditions to be mutually arranged.

After the coal mines were taken over there was said to be a marked decrease in industrial unrest, with a greater willingness to regard work in the collieries as war service of the first importance, the miners realizing that they were working for their country rather than for the private profit of their employers. But even so, towards the end of June, 1918, the Controller was constrained to add another to the long list of appeals to them. He deplored the loss of output through sporadic strikes caused by differences which could have been easily settled without resort to that weapon; he pointed out that an increased output per

FILLING SACKS FROM THE TRUCK.

coal-getter of even 10 cwt. a week would mean a total of about 10,000,000 tons a year; and he expressed his conviction that if the men would put increased efforts into their work, and if there were no avoidable absenteeism, the country would get the required output without any lengthening of the hours of work. Six or seven weeks later, this appeal was followed by a solemn plea, solemnly signed by the Executive of the Miners' Federation, in which every miner was urged "to work every day on which the colliery is open for work, if health and circumstances permit," and it was stated that an endeavour was being made to establish at all the collieries within the next few weeks joint committees to lessen as far as possible unnecessary absenteeism. But, as we have already seen, committees of this kind were supposed to have been formed two years before.

Still another appeal was made by Mr. Lloyd George at Newport on August 11, when he picturesquely exhorted the miners to hurl coal at the Germans in wagon loads. A piteous picture of Italy's straits for fuel was drawn a week afterwards by Signor Galli, the chief of the Italian Coal Mission in London, and a few days later the Coal Controller read to a conference of the Miners' Federation assembled at Southport messages from Admiral Beatty, Sir Douglas Haig, M. Clemenceau, and Marshal Foch, all urging the supreme importance of an adequate supply of coal. He also revealed that owing to the effects of influenza the output during the preceding July had been lower than in any month since the war began—a misfortune that added several million tons to the estimated deficit which, as is shown on p. 130, was the main reason for introducing the rationing scheme that was being put into force just at this period. On the same day the newspapers reported a strike in Yorkshire which resulted in 20,000 miners stopping work, though only for a day.

So far as it could be expressed by the rough and unsatisfactory method of dividing the total production by the number of miners employed above and below ground, the annual output per man had not changed very seriously during the war. The figures as given by the President of the Board of Trade to the House of Commons on July 31, 1918, were 255, 234,

TEMPERLEY TRANSPORTER FOR THE RAPID HANDLING OF COAL.

265, 257 and 246 tons per man for the five years 1913-1917, and he added that the rate in the first 24 weeks of the year in which he was speaking had been 247 tons. At best these figures did not compare at all favourably with those even of a decade before, for in 1906 and 1907 the output per man was 292 tons; but apart from them there were people in touch with the coal-mining industry who, judging from other criteria, believed that at least in some districts the productive efficiency of the miner had distinctly fallen off during the war.

This result might have been anticipated from the fact that the 400,000 men who by August, 1918, had gone from the pits to the Army (this figure must not be taken as representing the net reduction in the number employed, since other men had been drafted in) no doubt included many of the best from the physical point of view, and with the best will in the world the less fit and less skilled men on which the industry had to depend could not be expected to maintain the same standard. Other causes, however, were said to be having their effect in keeping down production: one was that many of the miners had no interest in earning high wages because they had no opportunity of spending the extra money, and another was their strong objection to the payment of income tax, which led them so to regulate the amount of work they did as to keep their earnings below the limit of exemption. On the other hand the miners alleged that the quality of the food they were receiving adversely affected their efficiency as coal producers. They also asked that better facilities should be provided for conveying coal from the working places to the surface, men often being able to get more coal than was taken away; and they urged that when experts visited mines on behalf of the Controller to inquire into complaints from the men as to the laxity of managers in this respect they should interview representatives of the men as well as the managers in order to get at the facts.

In connexion with the question of production it may also be noted that not all of the output that figured as coal was really coal. Bitter complaints were heard from gas companies and other large consumers about the increased percentage of dirt and incombustible matter that was delivered as fuel, the consequence being that purchasers had to pay for, and the railways had to carry, large amounts of rubbish that not only had no heat-giving value but also was difficult and expensive to dispose of. A similar phenomenon was witnessed in the United States. There, during the Arctic-like weather of the winter of 1917-18, the quality of the coal "decreased with amazing rapidity, aggravating the existing fuel famine to a degree not readily credible." Friendly suggestions for improvement proved of no avail, and the Government had to institute a rigorous system of inspection, the producing companies being compelled to pay the freight and other charges on coal that was condemned for excess of impurities, and to give it away to hospitals and similar institutions.

The proper distribution of mining labour was another problem to which the Controller had to turn his attention. From time to time it happened in districts the output of which under normal conditions was largely exported that there was enforced idleness among the miners because the outlet for the coal they

TRANSPORTER AT A COALING STATION.

produced was inadequate. At the same time, there was in other districts a serious shortage of men. Arrangements were therefore made in some cases to transfer labour from areas in which it was superfluous to others in which it was deficient; for instance, a special train service was put on to enable men to travel from the east of Fifeshire, where the pits were often working short time, to the west of the county, where there was more demand for their services. The Miners' Federation also accepted a proposal made by the Controller for the establishment of Mobility Bureaux, to be worked by it and its District Associations, and to deal systematically with the transfer of coal miners from pits that were not working full time to other coal, fire-clay or ganister mines where their labour was needed.

Finally, the Controller had to undertake the settlement of various complicated financial problems arising out of the taking over of the control of the coal mines by the State. Subject to his directions, the existing management of the mines was to continue, and their owners and managers remained liable under all the various Coal Mines Acts. But his main object was to maintain or increase the coal output of the country as a whole, and obviously directions he might issue or rearrangements he might make might enhance the profits of one concern while diminishing those of another. Again, the 2,500 coal mines in the country were of all sizes and descriptions—some great undertakings provided with every facility for rapid and economical production, others small, ill-equipped and difficult to work efficiently. He had power to order mines to be closed down, and if in the interests of increased output he found it advisable to exercise this power in respect of some mines of the latter class, the owners would lose their profits. Even if coal-getting were discontinued temporarily from a mine which it was not intended to close down permanently, it would often be necessary to continue pumping operations and to maintain the principal roads, in order to avoid excessive expenditure on reopening.

HOT WORK WITH A GAS RETORT FURNACE.

The terms on which claims for compensation arising out of cases like these should be settled were defined in an exceedingly intricate agreement which was signed on July 20, 1917, by the Controller and the Mining Association of Great Britain, and this agreement was

embodied in the Coal Mines Control Agreement (Confirmation) Act passed on February 6, 1918. Under it prosperous undertakings, over and above the 80 per cent. excess profits they paid to the national exchequer, had to pay a further 15 per cent. of those profits into a fund out of which the Controller made payments to less fortunate undertakings whose profits fell below a guaranteed standard. When the Controller closed a mine the cost of maintaining and reinstating it was to be met out of a levy on all undertakings in a district, this levy to be made only on the application of an association (or group of associations) of colliery owners in the district or districts. The agreement, which was binding on all coalowners, though many of them were opposed to it, could be determined by the Controller at any time, and in any case was to cease to have effect six months after the termination of the war.

MECHANICAL DISCHARGE OF HORIZONTAL RETORTS.

In his earlier days of office the attention of the Controller was mainly concentrated on questions affecting the output and distribution of coal, and little was done either by him or by those who preceded him in the direction of attacking the problem from the other end by reducing the amount of coal used, whether by restricting the consumption or by ensuring efficient utilization. It is true that from time to time rather half-hearted admonitions to economy made their appearance. Reporting in June, 1915, the Board of Trade Coal Mining Organization Committee thought that the importance of economy in the use of coal should be brought before the public, and suggested that there were obvious fields for saving in public and private lighting and in the manufacture of luxuries that required coal. In the following October the Parliamentary War Savings Committee issued a leaflet with hints for saving coal, and in March, 1916, the Board of Trade made an appeal for economy in fuel, following it up in May with a letter to gas and electric light undertakings requesting them to inform their customers that the consumption of coal for lighting purposes must be reduced by 10 per cent. A few weeks later the Board drew the attention of electricity undertakings to the very considerable saving that might be effected by the adoption of arrangements for the linking up and joint working of electric power stations; as a result a certain amount

of activity was shown in various parts of the country in drawing up and carrying out schemes of interconnexion, though these efforts were handicapped by the diversity of the systems and pressures of supply employed. Again, the public was asked to burn gas in preference to raw coal, because in the process of making gas certain products are obtained which were urgently needed for the manufacture of high explosives, though they are lost when coal is burned in a fireplace or furnace in the ordinary way; and the more coal was used for gasmaking the greater the supply of those products. The authorities who were anxious to see the consumption of coal reduced were, however, impaled on the horns of a dilemma, and wavered between recommending the gas undertakings to make all their gas out of coal, for the sake of the by-products, and urging them to rely as much as possible on water gas, the production of which would conserve coal, but not yield the desired by-products.

In the middle of 1916 there were rumours of impending plans for enforcing economy in coal by the issue of coal tickets, and for persuading users of gas and electricity to reduce their consumption by charging them double rates on any excess above 75 per cent. of their accounts for the corresponding quarter of the preceding year. In the autumn the National War Savings Committee, in co-operation with the Board of Trade, issued an earnest appeal to all householders, and especially the well-to-do, to exercise the greatest economy in the use of coal, gas and electricity. The first serious step towards restriction of consumption, however, was not taken till a year later, when the Household Coal Distribution Order, to which reference has already been made, was applied in the London area; and it was followed by a further measure in the shape of a Lighting, Heating and Power Order under the Defence of the Realm Regulations, which was dated March 26, 1918, and came into operation on April 2.

This Order was divided into two main parts. The second, which applied all over Great Britain, prohibited the serving of hot meals and the cooking of food in hotels, restaurants, clubs and similar places between 9.30 p.m. and 5 a.m., and it also provided that no lights, except such as were necessary for cleaning and watching, should be exhibited

REBUILDING FIRECLAY RETORT BENCHES.

COALING A WARSHIP FROM A LIGHTER ALONGSIDE.

in the dining rooms of such places between 10 p.m. and 5 a.m. Exceptions were made in regard to beverages served to residents or in railway buffets, to canteens at railway stations for soldiers and sailors, and to private canteens in Government offices or works, controlled establishments and police stations. Further, the consumption of gas or electricity on the stage or in the auditorium of any place of entertainment was forbidden between 10.30 p.m. and 1 p.m. on the following day, with certain exceptions as to rehearsals and the exhibition of cinematograph films to the trade; and entertainments and lectures between the same hours were barred in any part of inns, hotels and boarding houses lighted or heated by gas or electricity. No lights of any description were to be used at any time in shop fronts, except those necessary for serving customers or for illuminating a small sign to indicate that the shop was open for business. Besides directly promoting economy of gas and electricity these regulations indirectly saved fuel, because they tended to make people go home earlier, and thus it was possible to reduce the late services on railways and tramways. It may be noted that a few months before they came into force drastic measures of a similar kind had been announced in Germany, including limitation of shop and street lighting, early closing of shops, restaurants and theatres, and restriction of railway and tramway services.

The other part of the Order applied only to those parts of England lying south of a line drawn from the Bristol Channel to the Wash. It ordained that the amount of gas or electricity consumed on any premises in any one quarter of the year should not exceed five-sixths of the amount consumed in the corresponding quarter of the year 1916 or 1917, whichever was the greater. The consumption, however, need not be reduced below certain minima—3,000 cu. ft. of gas and 20 units of electricity in the June and September quarters, and 3,500 cu. ft. and 40 units in the December and March quarters—and persons whose normal consumption did not exceed those amounts were permitted to consume as much as they did in the corresponding quarter of 1916 or 1917, whichever was the greater. Hospitals, nursing homes, controlled establishments, railway stations, sold stores and gas and electricity stations were exempt from restrictions on their consumption.

Even the authors of this Order realized that at least the portion dealing with the restriction of the household consumption of gas and electricity was rather a crude and makeshift piece of work. Indeed the Board of Trade was almost apologetic about it, promising due consideration for consumers in its administration, and explaining that the need for an immediate reduction of consumption had ruled out the idea of framing a scheme of rationing based on the circumstances of indi-

BETWEEN A SHIP'S BOILERS.

vidual consumers, since necessarily a considerable time would be required to bring any such scheme into operation. Perhaps the point with which the public was most dissatisfied was that the Order pressed most hardly on those meritorious people who had been voluntarily economizing in gas and electricity during the two previous years; but its gravest defect as a practical measure was that it defeated its purpose of reducing the consumption of fuel by encouraging the use of coal on the part of those who found their allowances of gas and electricity inconveniently small.

Its existence, or at least that of the portion which rationed gas and electricity to domestic consumers in the South of England, was, however, short-lived, and in July it was replaced by a new Household Fuel and Lighting Order which applied to the whole of England and Wales, and which rationed coal, gas and electricity simultaneously. The part of the old Order that restricted the consumption of fuel and lighting in places of entertainment remained in force.

The reason that dictated the supersession of the old Order was partly its inherent imperfections, but still more the pressure of external circumstances. The German offensive in the early part of 1918 affected the situation in two ways. In the first place, it deprived the French of the use of some of their collieries in the Pas de Calais, while at the same time the railways serving that coalfield were so fully engaged for military purposes that it was almost impossible to convey coal over them. The result was that the amount of coal France could draw from her own mines was reduced to the extent of about 8,000,000 tons a year, and this deficiency had to be made good from British sources. In addition, Italy's needs were urgent, and in all an increased demand of 13,000,000 tons a year from Allies and neutrals fell upon the collieries of the United Kingdom. In the second place, there was an imperative call for more men for the Army. In February the coal situation seemed relatively so favourable that it was decided that 50,000 men could be spared from the mines for military service without real inconvenience, if the whole of the United Kingdom were rationed for coal on the lines adopted for London in the preceding year. A little later, with the German advance, there arose the question of releasing a second 50,000 miners, but this number was halved, and the total to be withdrawn thus became 75,000. It was estimated that in consequence the output of coal would be reduced by 22,500,000 tons in the year, so that, with the increased supply of 13,000,000 tons to Allies and neutrals, a total amount of 35,500,000 tons had to be found.

More than a quarter of this quantity, or 10,000,000 tons, it was calculated, would be obtained from the areas that produced coal for export. In these large quantities of coal had been stored at the pit-heads, whence they could not be removed, not so much on account of lack of shipping as because of the submarine menace; indeed, it had often been the case that miners willing to work had perforce been idle because their produce could not be sent away. But thanks to various operations carried out by the Navy, shipping regained its freedom in large measure, and the accumulated stocks, with which it must be remembered the railways could not deal owing to congestion of traffic,

could thus be distributed by coastal steamers. A second source which could be drawn upon was some 4,000,000 tons stored at pits in other parts of the country, and a third was 3,000,000 tons stored at depôts; while the recall from the home army of about 25,000 pre-war miners of low medical category, together with the usual influx of boys to the pits, was expected to yield an additional 3,500,000 tons. These four sources accounted for 20,500,000 tons; of the remaining 15,000,000 tons, the Household Fuel and Lighting Order was designed to save 8,000,000, and a system of rationing of industries by priority 7,000,000.

Although this Order was an extremely long and complicated document of the worst official type, the main principles on which it was based were simple enough. Each house received a lighting allowance of gas or electricity and a fuel allowance of coal or coke, both allowances varying according to the number of rooms. The lighting allowance could be taken partly in gas and partly in electricity, 12 Board of Trade units of the latter being reckoned as equivalent to 750 cu. ft. of the former. The fuel allowance could also in part be taken in gas or electricity, or in gas and electricity; in this case 15,000 cu. ft. of gas, or 800 units of electricity, counted as one ton of coal, so that the equivalent of 750 cu. ft. of gas was 40 units, instead of only 12, as under the lighting allowance. The smallest quantity of coal that could be converted into gas or electricity was one quarter of a ton. The consumer also had the option of taking coke in lieu of coal, at the rate of three tons of the former for two of the latter.

The lighting allowance was the same all over England, and ranged from 7,500 cu. ft. of gas or 120 units of electricity for houses in which the number of rooms did not exceed three up to 30,000 cu. ft. or 480 units in houses with 19 to 21 rooms. The fuel allowance was rather larger in the North than in the South. For houses having from six to 20 rooms, it amounted, in Wales and in England north of a line drawn roughly from the Bristol Channel to the Wash, to a ton a year per room; south of that line (including the Metropolitan Fuel Area) it was less by one ton annually. For houses with fewer than six rooms the allowance was slightly more liberal in proportion, both in the North and the South. Provision was also made for increasing it in certain cases, as when old persons, young children or invalids were resident in a house, or separate rooms

A DESTROYER AT FULL SPEED.
Oil fuel is required for destroyers and many other naval vessels.

were occupied by lodgers. As compared with the rations imposed on London in 1917, the Order was estimated to represent a reduction of about 25 per cent. Its administration was local and decentralized, through Fuel Overseers appointed by the local authorities of the various districts.

The scope of the Order was wider than its title implied, and it not only extended to laundries, dairies, and other industrial and trade premises in which occupations or businesses of a domestic or quasi-domestic nature were carried on, but it was also applicable to the smaller purely industrial premises using not more than 100 tons of fuel a year. The effect of the rationing of larger industries was meant to be that those of an essential character, engaged in work of national military importance, should be guaranteed an adequate supply of coal, while the less essential ones, not engaged directly on war work, would come under a priority system designed to secure the desired saving of 7,000,000 tons a year. Efforts were also instituted to reduce the industrial consumption of fuel by seeing that it was used efficiently and economically. For this purpose a technical staff was attached to the head office of the Coal Controller in London, and a considerable body of engineers was secured to work in the provinces in connexion with it—an arrangement that enabled the country to be mapped out into districts so that all industrial consumers would be readily in touch with the organization. The scheme, which comprised two main sections—electrical undertakings and industrial undertakings—included scrutiny of the quantity and quality of the coal consumed by the various undertakings, and inspection of works and factories by experts to ascertain the efficiency obtained in the consumption of fuel and the possibilities of improvement. Applications for help and advice were invited from industrial users, and in addition the plan was that representatives of the Controller should systematically visit the various firms.

This scheme followed one of a similar but more drastic character that had already been inaugurated in America. We have already told (Chap. CCXLIV) how, largely owing to the failure of the railways to cope with the traffic, the United States suffered a coal famine so bad that in January, 1918, it was necessary to declare a public holiday of three days, followed by several "heat-less" Mondays, in order to save coal and enable stocks to be

AN IRISH PEAT BOG.
Cutting the Winter's Supply.

ANIMAL TRANSPORT IN IRELAND.

replenished. But, apart from traffic difficulties, estimates made in the early part of 1918 by the United States Fuel Administration indicated that in the ensuing twelve months the country would require a quantity of coal larger by some 80,000,000 tons than it had used in the previous year, when the output had been 50,000,000 tons greater than ever previously recorded. It was not thought possible to increase the output by more than about 25,000,000 tons, so that there remained a deficit of between 50 and 60 million tons which had to be made up, if possible, by economies and the prevention of waste.

One of the measures taken for this purpose was the establishment at Washington of a Fuel Engineering Division under the United States Fuel Administration. Originally this division was in two sections, one to deal with railways, and the other with all other power plants; but later the work connected with the railways was handed over to the Railway Administration, and the Fuel Engineering Division devoted itself entirely to the conservation of fuel in stationary power plants. The organization adopted involved centralization on "essential fundamentals," which were uniform for all States. There was a central office in Washington, with an administrative engineer for each coal-using State, attached to the Federal Fuel Administration of that State, but the local administration was elastic so that the scheme might be workable and effective under widely varying conditions.

The fundamentals of the national programme were: (1) Personal inspection of every power plant; (2) the rating and classification of all the plants in the country into five classes, according to the thoroughness with which the owners conformed to the recommendations of the United States Fuel Administration; and (3) the curtailment or stoppage of supplies of coal, at the discretion of the Federal Fuel Administration, to any needlessly wasteful plant. The recommendations of the Fuel Administration required that means be provided for measuring and recording the fuel used each shift or day; that boiler-feed water be heated by exhaust steam or waste heat, and measured; that the correct amount of air be supplied to the fuel, and proper means provided for measuring and regulating the draught; that boiler surfaces be kept clean inside and out; that furnaces and settings be kept in good repair and free from air leakage; that exposed steam surfaces wasting heat be covered with

suitable insulating material; that exhaust steam, wherever possible, be used to the exclusion of direct steam from the boilers, the plant being designed to produce no more exhaust steam than could be efficiently utilized in heating and process work; and that a competent employer or committee be detailed to supervise the work of fuel conservation in boilers and engines, and a competent committee be put in charge of the same work in buildings and shops outside the power plants. As a further assistance in this work, the Fuel Administration

[*Elliott & Fry.*

SIR RICHARD REDMAYNE, K.C.B.,
Chief Inspector of Mines and Chairman of the Imperial Mineral Resources Bureau.

prepared a 50-minute film of moving pictures illustrating good and bad operation of steam boilers, methods of testing, etc.—these pictures being available to any State in connexion with its publicity and educational propaganda; and it also published a series of bulletins on the engineering phases of steam and fuel economics.

In the United Kingdom the war further stimulated attention to the wider aspects of the problem of the more efficient employment of the national fuel resources, as opposed to the immediate restriction of the amounts consumed rendered necessary by the deficiency of supplies. The British Association could claim the merit of giving a lead in this matter, but its efforts were merged in and superseded by the Fuel Research Board which was established under the Department of Scientific and Industrial Research. This Board, which was under the direction of Sir George Beilby, took up two main lines of inquiry: (1) A survey and classification of the coal seams in the different mining districts by means of chemical and physical tests in the laboratory; and (2) investigation of the practical problems which must be solved if any large proportion of the raw coal at present burnt in its natural state was to be replaced by the various forms of fuel obtainable from coal by processes of carbonization. For the purposes of the second branch of inquiry a large experimental station was erected at East Greenwich, equipped in such a way that operations on an industrial scale could be carried out under proper working conditions. As was explained in the first published report of the Board, the need for investigation of a kind that could not be adequately carried out except in such a station had been becoming more and more insistent

[*Elliott & Fry.*

SIR GEORGE BEILBY,
Director of Fuel Research.

for several years previously owing to demands for cheaper and more ample supplies of electric power, for home supplies of fuel oil for the Navy and of motor spirit for the air and transport services, and for smokeless domestic fuel. The only development that could satisfy all these demands simultaneously was seen to be the substitution of manufactured fuels prepared from raw coal by distillation for the coal burnt in boilers, furnaces and domestic fireplaces; and this involved large problems,

["The Commercial Motor."

MOTOR VEHICLES WITH GAS-BAGS.

both engineering and economic, for the solution of which the requisite data were not in existence. The object for which the Fuel Research Board was established was to ascertain these fundamental data, though its work was directed towards the needs of the future rather than those of the war period.

Another document of importance in relation to the better utilization of our coal resources, which, as for years Royal Commission after Royal Commission, not to mention private individuals, had preached in vain, though large, were strictly limited, was the report of the Coal Conservation Sub-Committee of the Ministry of Reconstruction, issued at the end of 1917. This report presented the case for the extended generation and use of electricity as a means not only of employing our fuel supplies to better advantage, but also of developing our industries. It urged the need, for the latter purpose, of largely increasing—by two or three times—the amount of power used; and it expressed the opinion that with a comprehensive system of electric supply a saving of 55,000,000 tons of coal might be expected, on the basis of the extent to which power was used at the time; while alternatively, if these 55,000,000 tons were used for extended and new industrial purposes, some 15 million horse-power would be available throughout the year. The establishment of an efficient electric supply system throughout the country would further mean, it declared, a reduction in the cost of the transport and delivery of coal, a saving in the amount of coal used for domestic purposes (put at 35,000,000 tons annually), economies arising from greater use of electricity in the household, the possibility of utilizing coal left in the pits or otherwise wasted and of extracting by-products from it, and increased electrification of railways. Taken together, it affirmed, these possible savings and advantages showed a total possible national advantage which could hardly be put at less than £100,000,000 a year, apart from manufacturing and individual advantages. In its main lines the scheme suggested in the report for the reorganization of the national electricity supply was adopted by the Board of Trade Committee which reported in June, 1918, on the legislative measures required to give it effect.

The reports of several other sub-committees, constituting the final report of the Coal Conservation Committee, were published in August. Perhaps the most conspicuous of the recommendations made was that for the establishment of a separate Ministry of Mines and Minerals under a Minister with a seat in Parliament, this Minister to be assisted by an Advisory Board containing representatives of the mining industry, including the workmen, with men eminent in branches of science connected with the industry, and possibly

PLOUGHING BY COAL GAS.

representatives of the principal classes of consumers. The Sub-Committee pointed out that even before the war six or seven different State Departments were concerned with mines and minerals, and that with the war the number and diversity of the functions of the State in this matter showed a great increase. It therefore proposed that with few exceptions these functions should be transferred, either at once or after the war, to the new Ministry, which among other things would attend to mining education, regulations as to health and safety, and local problems such as the working of barriers and the drainage of waterlogged areas. Discussing the relations between the proposed Ministry and the Imperial Mineral Resources Bureau which had been pronounced to be desirable by the Imperial War Conference in 1917, and which by the time the Sub-Committee's report was published had been definitely constituted under the chairmanship of Sir Richard Redmayne, the Sub-Committee considered that the Minister of Mines must retain full administrative control of his department, and that corresponding departments in the Dominions would no doubt rightly claim similar freedom and responsibility.

From coal we may turn to liquid fuel, consisting for the most part of petroleum, a natural product obtained from the earth in various oilfields oversea and imported into this country. It may be divided into two main classes—the light spirit or petrol needed for the engines of aeroplanes and motor vehicles, and the heavy oils used for raising steam in ships of the Navy, for heating certain types of industrial furnace and for driving Diesel and similar engines. Kerosene or lamp oil is an intermediate variety.

To take the former first, apart from a sharp but transient rise in the price in August, 1914, as a result, not of any scarcity, but either of panic or of unscrupulous profiteering, little was heard for good or ill during the first year or eighteen months of the war about the petrol supply, which streamed on in its accustomed abundance. Some people preached, and some even put the precept into practice, that motoring and the consumption of petrol it entailed was a luxury that should be foregone in war-time in common with luxuries in general; but the continuance of the usual plenteous supplies of motor spirit was mostly accepted as a matter of course, with no disturbing thought of shortage bringing restriction of use. Early in January, 1916, however, one of the great companies engaged in the distribution of motor spirit issued a warning that owing to the enormous quantities that had to be supplied for military purposes at home and in France there might occasionally be delays in the deliveries to civil consumers, and urged that orders should be limited to a minimum and the utmost economy practised in consumption. This notice really reflected the anxiety that

was beginning to be felt by the Government, but its effect was discounted by the issue of a counter-manifesto by a rival company, which intimated that it had ample stocks and was ready to meet the normal requirements of its customers. The original warning was, however, repeated more plainly a few weeks later, when the former company stated that the supplies available, after military requirements had been met, were only a third of those of peace time. Rising prices provided a still stronger hint that all was not well, and, finally, without indecent haste, the Government took action.

and Army, to be about 153,000,000 gallons a year, or over 12,000,000 gallons a month, as compared with a total civilian consumption of 111,000,000 gallons in the previous year. The quantity in stock about this period had dwindled to about 12½ million gallons, or little more than a third of what it had been at the beginning of the year, and it was estimated that only 75,000,000 gallons a year would be available for the civil population, or about 6,300,000 a month. The committee received demands for 324,000 licences, representing a much larger number of vehicles.

SCENE IN THE RUMANIAN OIL FIELD.

Towards the end of April the Board of Trade appointed a committee to control the supply and distribution of petrol and to consider the measures necessary in the national interest to ensure adequate supplies for the purposes of the war and essential needs and to regulate its use for other purposes. No exact information about the country's demands was, of course, available. The first step of this committee, therefore, was to take a census, and on June 13 every person who used or kept motor spirit was required to furnish within seven days a return giving his consumption, stock and estimated requirements. The figures stated in the returns showed the civil requirements, in addition to the demands of the Navy

In these circumstances it was evident that consumers could not all get the amounts they asked for, and the allocations were made on a priority basis according to the character of the purpose for which the spirit was to be used. In respect of commercial cars and industrial processes 60 per cent. of the quantity demanded was allowed; taxicabs, omnibuses, and public vehicles received 50 per cent.; doctors' and veterinary surgeons' cars the full amount asked for up to 50 gallons a month; private cars 25 per cent., with a maximum of 30 gallons a month, and motor-cycles 2 gallons a month. Of the 6,300,000 gallons available a month, 2,100,000 went to commercial vehicles, 312,500 to industrial processes, 2,087,000 to cabs and

A "SPOUT" ON THE BIBI-EYBAT OIL FIELD, BAKU.

omnibuses, 418,750 to doctors and veterinary surgeons, 700,000 to private cars, and 181,250 to motor-cycles. In the case of the private cars the amount asked for was 2,800,000 gallons monthly, but the average allowance they actually received was rather less than 7 gallons for each car. Private owners showed praiseworthy moderation in estimating their requirements.

The procedure adopted was to issue to each consumer a licence which specified the number of gallons he was entitled to in a specified period, but before he could get the petrol he had to pay a licence duty of 6d. on each gallon allowed him. No duty, however, was exacted on petrol used for commercial vehicles or industrial purposes, and in the case of doctors and veterinary surgeons it was reduced by half. The licences came into force on August 1, and in the first instance ran for periods of 3 months for private cars, 4 months for commercial vehicles, and 6 months for doctors' cars. Other series of licences were issued on their expiry.

The subsequent history of petrol regulations was one of constantly tightening restrictions on use, owing on the one hand to the ever increasing demands of the air services and of munitions works and road transport generally, and on the other to the decrease of shipping facilities for importation. From September 1 the use of motor spirit in *chars-à-bancs* and similar vehicles for excursion and pleasure trips was prohibited, and in the earlier part of the following year (1917) it became necessary to cut down the consumption of motor-omnibuses by about 20 per cent. and to refuse licences for private cars that were not used for business purposes or in the discharge of public duties. The quantity allowed even these privileged vehicles was, as a rule, reduced to a maximum of 10 gallons a month, and further limitations were placed on the supplies to doctors and the owners of taxi-cabs and commercial vehicles. An edict intended to prevent the consumption of petrol for pleasure purposes in hired cars appeared in May, and in July motor-cars and taxi-cabs were forbidden to travel to or from race meetings. November saw another order under the Defence of the Realm Regulations, designed to put an end to the use of private cars for unnecessary purposes, which still continued to an appreciable extent, and the police were instructed to stop cars they suspected of being employed in a manner not permitted by the order.

The effect of the restrictions introduced during 1917 was to reduce the number of licences from 306,000 to 231,000. In August, of the licences in force, 31 per cent. were in respect of private cars (including those engaged on Government work and in connexion with munitions factories) and accounted for 9 per cent. of the petrol consumption. For motor-cycles the corresponding figures were 16 and 1 per cent.; for doctors' and veterinary

surgeons' cars 7 and 5 per cent.; for hackney vehicles (omnibuses, cabs, etc.), 7 and 30 per cent.; for commercial vehicles, 17 and 37 per cent.; and for industrial purposes, including agriculture, 22 and 18 per cent

Meanwhile a ray of light pierced the gloom with which the petrol restrictions had encircled both private motorists and owners of commercial vans not engaged on work directly connected with the war. With little or no alteration the motor-car engine will run on coal gas instead of petrol, and during the year a good deal of attention had been paid to this subject, with the result that a number of firms had put themselves in a position to supply the necessary equipment. The progress made was illustrated in October, 1917, by an exhibition in London of a number of vehicles in which the gas was stored in collapsible bags carried on the roof, and a few months later it was stated that of commercial vehicles alone 4,500 had been equipped to use gas and that 2,500 more gas-bags were on order. The Ministry of Munitions gave a ruling that gas used in this way was not a "petrol substitute," and thus did not come within the grip of the Petrol Control, and everything seemed in favour of this new development, except that a few gas undertakings had no gas to spare for the purpose and were relieved from the obligation of supplying it.

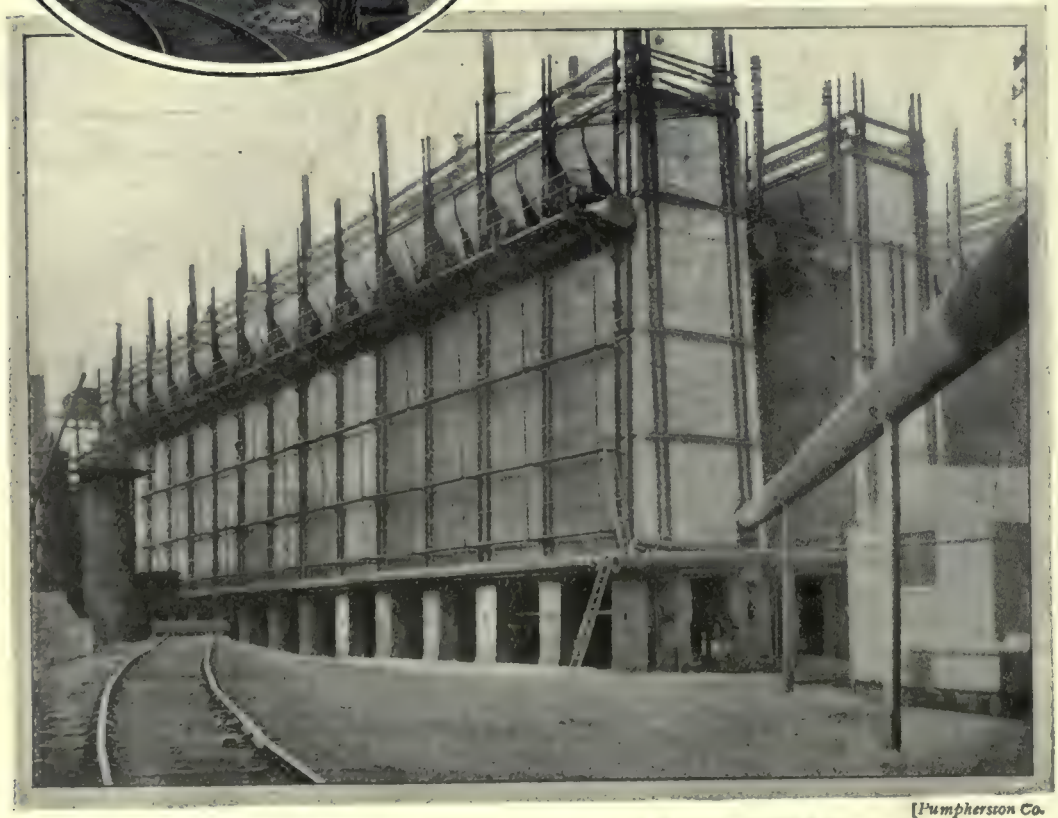
These fair hopes were, however, doomed to disappointment. Just before Christmas it was announced that the use of gas for motor-cars was to be brought under the same regulations and restrictions as the use of petrol, and the blow fell when in the Motor Spirit (Consolidation) and Gas Restriction Order, 1918, which came into operation on January 10, the two fuels were subjected to equality of treatment and restriction. Yet gas did not drop out of official notice. A Gas Traction Committee which had been appointed in November, 1917, by Mr. Walter Long as head of the Petroleum Executive reported in the following April that gas could be safely and effectively substituted for petrol in the usual motor-car engine, and it recommended the formation of an expert sub-committee (the names of which were announced in June) to investigate a number of technical problems the solution of which would tend to promote the efficient use of gas for traction.

The year 1917 saw several administrative changes in connexion with petrol and other petroleum products. Thus in June, the old Petrol Control Committee ceased to exist, and its functions in connexion with the issue of licences and the rationing of petrol for civil and industrial needs were transferred to a new Petrol Control Department of the Board of Trade, Sir Evan Jones being appointed its controller. A little earlier it had also been

BURNING OIL-WELLS AT BORYSLAV, GALICIA.

decided that the various companies engaged in the petroleum trade should be required to pool their distributing facilities in this country and the tonnage they employed in importing oil, the object being to release men for the Army and effect economies in various directions. A Pool Board (Petroleum Supplies) was constituted to coordinate the work of the oil-distributing companies, and after its formation all petroleum products (except lubricating oils) that had previously been delivered under proprietary brands were delivered under war brands and distributed under the authority of the Board.

But over and above these organizations for looking after the details of distribution, the need had become apparent for some higher and more general direction of the whole subject of petroleum supplies. The issues were too vast and too vital to be left to settle themselves. Various Government Departments required petroleum products in huge and ever-increasing quantities—the Admiralty for the Fleet, the War Office for motor traction, and the Air Service for aeroplanes, to mention only three—and made their purchases without much care for the requirements of each other or thought about the future. So long as supplies came in freely this system—or want of system—passed muster, unbusinesslike though it was, but when the activity of German submarines began to make its effect felt on our shipping, the desirability of some measure of coordination between the demands of the different departments became insistent. The first attempt in this direction was made in February, 1917, when an interdepartmental committee was appointed for the purpose. Later in the year the War Cabinet decided to place the matter in the hands of a responsible minister. Mr. Walter Long, who was selected for the position, soon found the administrative work grow to such an extent as to necessitate the formation of an executive department, and accordingly in August a Petroleum Executive was constituted to deal with the larger questions of policy relating to petroleum, the Director



[Pumpherston Co.

RETORTS AT A SCOTTISH SHALE OIL WORKS.
Inset: DISTILLING PLANT.

[Pumpherston Co.

HILL OF SPENT SHALE, WITH STORAGE TANKS.

being Professor (afterwards Sir) John Cadman, who also acted as Mr. Long's technical adviser and liaison officer between different departments. Professor Cadman further was chairman of an Inter-Allied Petroleum Organization which was subsequently set up to consider and deal with the petroleum problems of the Allies in connexion with the war.

Among the measures arranged by Mr. Long was the organization, in July, of a Mineral Oil Production Department at the Ministry of Munitions, to undertake work in connexion with the production of oil from home sources. Some attention had already been paid to this question. In February there had been formed at the Ministry of Munitions a Petroleum Supplies Branch, with a Petroleum Research Department under Sir Boverton Redwood, whose duties included the development of British sources, and the services of Professor Cadman were called upon to assist in increasing the supplies of Scottish shale oil. When the Petroleum Executive came into existence Sir Boverton Redwood became Director of Technical Investigation in it, ceasing to act as Director of Petroleum Research.

Though natural petroleum from overseas was the great source of the different varieties of liquid fuel needed for the prosecution of the war, several subsidiary sources of supply existed within the country itself. In Scotland, for instance, the distillation of oil from shale was an old-established industry which before the war was producing over 300,000 tons of crude oil a year, and the carbonization of coal in coke ovens and gasworks retorts yielded a number of products available as liquid fuel. Obviously anything that could be done to obtain or utilize these products in larger quantities, or to develop new sources of supply at home, would be of advantage in reducing the amount of petroleum that needed to be imported, and thus releasing ships for other requirements.

[Elliott & Fry.

PROFESSOR SIR JOHN CADMAN, K.C.M.G.,
Director of Petroleum Executive.

One possible new source of supply to which the Petroleum Research Department devoted a great deal of attention was cannel coal and allied minerals. The quantity of oil that can be obtained from cannel coal by distillation varies largely, and, though the average is much

less, may be as much as 80 gallons a ton; in some cases, indeed, the mineral is so rich in oil that it can be ignited and burns like a candle, whence its name. As the result of its survey, the Research Department came to the conclusion that a daily production of 12,700 tons of cannel coal or kindred material was possible, and it therefore recommended the erection of 127 batteries of retorts, each with a capacity of 100 tons a day, for the low-temperature distillation of that amount. The Ministry of Munitions, however, decided against carrying out this programme for a variety of reasons.

GASWORKS PRODUCING FUEL OIL.
Distillation of cannel coal in Glover-West continuous vertical gas retorts.

In the first place the conclusion was reached that it was impracticable to obtain any such quantity of cannel as was estimated by the Research Department without diverting labour from the production of ordinary coal and thus reducing the output of the latter. In the second place it was felt that the suitability of the type of retort suggested had not been proved on an industrial scale, while apart from this objection it would have been difficult, if not impossible, to obtain the labour and materials necessary to build the large number of retorts proposed. These conclusions and the decision based on them were endorsed by a departmental committee which was appointed under the chairmanship of Lord Crewe in April, 1918, and reported in the following July. On the other hand, a committee of the Institution of Petroleum Technologists, which reported about the same time, held that at least 10,000 tons a day of retortable material could be economically assembled if the necessary facilities were given by the Government and the requisite labour were available; that at an average of 30 gallons a ton this quantity would yield over 400,000 tons of crude oil a year, and that retorts were in existence that would successfully recover the maximum oil content of the mineral.

The idea of utilizing cannel for oil production was not, however, abandoned. The Munitions Mineral Oil Production Department not only decided to erect an installation by which the capabilities of the type of retort advocated by the Research Department could be fairly tested, but it also sought a means by which the distillation of such cannel as was obtainable could be carried out with the aid of existing plant and existing trained staffs. A solution was found in the continuous vertical retorts

used at a number of gasworks. The first proposal was that these should be employed in distilling cannel only during the summer months when, the demand for gas being reduced, they could be spared from their normal function

SIR BOVERTON REDWOOD, Bart., Director of Technical Investigation in the Petroleum Executive.

of making gas; but ultimately a method of working was found which enabled them to give, while using cannel, a yield of gas substantially equal to their normal yield when using gas coal in the ordinary way, in addition to a good production of oil. Thus they could be employed continuously all the year round for making both oil and gas out of cannel without detriment to the ordinary gas supply.

The plan was to maintain a temperature of 800-900 deg. C. at the top of the retorts increasing to 1,300-1,400 deg. at the bottom and to introduce a regulated percentage of steam These conditions really represented a combination of high and low temperature carbonization, and approximated closely to those evolved by the long experience of the Scottish oil-shale distillers. Little capital expenditure was required to adapt the existing retorts, the only extra plant required comprising a steam boiler, sometimes a superheater to dry the steam or superheat it slightly, and some separators to eliminate the water from the oil obtained, which after a simple mechanical treatment was found suitable, without further refining, for firing boilers and driving Diesel engines. Steps were taken to make the necessary alterations to a number of vertical retorts sufficient to deal with all the available supplies of cannel.

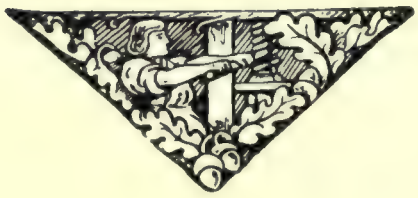
The improvement of the output of the Scottish shale oil industry was also taken in hand, and the utilization of the oil shales of Dorset and Norfolk was considered. Investigation showed, however, that these could not be quarried or mined so readily as was sometimes suggested, while even if large quantities had been easily obtainable, there remained the difficulties, among others, of getting men and materials to erect the retorts and of arranging for plant and organization to deal with the by-products produced along with the oil.

Finally the possibility of free petroleum existing beneath the surface of the ground in some parts of the United Kingdom was not forgotten. A Petroleum (Production) Bill, which made provision for searching and boring for petroleum and which was designed to prevent, should oil be discovered, various abuses that had attended the development of oil fields

BORING FOR OIL IN ENGLAND.

in other countries, was introduced in August, 1917, but failed to win the approval of the House of Commons, largely because of the system of royalties it proposed. The result might perhaps have been different had the Government disclosed that a well-known firm with wide experience of oil fields was ready, under certain conditions, to risk half a million sterling on the chance of striking oil in Britain. But however that may have been, the Bill after some delay was withdrawn, the official explanation being that it had been found that action could be taken without special legislation.

An Order in Council and a new Defence of the Realm Regulation followed immediately, in January, 1918, under which the Board of Trade and the Ministry of Munitions received powers to search for petroleum, to enter upon and take possession of any land, and to sink wells and construct works on it, while searching for or getting petroleum without authority was prohibited. None the less, a second Petroleum Bill was brought in before Parliament just before the end of the Session in August. Its main object was declared to be to extend the prohibition against boring and searching for petroleum without a licence, and it did not touch the royalty question. It was passed by the House of Commons, but consideration of it in the House of Lords was deferred until the following Session.



CHAPTER CCLIII.

THE BOY SCOUTS.

PREPAREDNESS OF THE BOY SCOUTS—SIR R. BADEN-POWELL AS A PROPHET—HOLIDAY AND WAR—THE BOY SCOUT ORGANIZATION—WORK OF A WARTIME CAMP—LORD KITCHENER'S VIEW—THE PUBLIC AND THE SCOUT—A NON-MILITARY MOVEMENT—OPINIONS OF THE PRESS—THE AMERICAN AMBASSADOR—SCOUT LAW—SCOUT BADGES—GALLANTRY IN THE NAVY—SEA SCOUTS AS COAST-GUARDS—GALLANTRY IN THE ARMY—INFLUENCE OF THE SCOUT SPIRIT—WAR EMERGENCY WORK—WORK FOR THE GOVERNMENT—AGRICULTURAL WORK—BOY SCOUT TESTS OF CITIZENSHIP—RECREATION HUTS AND COLLECTIONS—HELPING THE POLICE—IN AIR RAIDS AND BOMBARDMENTS—WORK FOR HOSPITALS—BOY SCOUTS OF THE EMPIRE—THE MOVEMENT IN FOREIGN COUNTRIES—SCOUTS OF THE ALLIES.

IN 1917 the Prime Minister (Mr. Lloyd George) wrote:—"I do not think I am exaggerating when I say that the young boyhood of our country, represented by the Boy Scouts Association, shares the laurels for having been prepared with the old and trusted and tried British Army and Navy. For both proved their title to make the claim when the Great War broke upon us like a thief in the night. It is no small matter to be proud of that the Association was able within a month of the outbreak of war to give the most energetic and intelligent help in all kinds of service. When the boyhood of a nation can give such practical proofs of its honour, straightness and loyalty, there is not much danger of that nation going under, for these boys are in training to render service to their country as leaders in all walks of life in the future."

Handsome as was this testimony to the value of the work done by the Boy Scouts at the outbreak of war, the peculiar aptness of the Prime Minister's terms of praise could only be appreciated by those with some knowledge of the Boy Scout movement. It was no accidental phrase that apportioned laurels to the boys for having "been prepared": because "Be Prepared" had been the Boy Scout watchword in all the years before the war. So, too, in writing of "honour, straightness and loyalty" and of "training to render service," Mr. Lloyd George was consciously enunciating the whole principle and spirit of Scout Law. To many, perhaps to most, before the war scouting may have appeared something like playing at soldiers: whereas there was really nothing military in the organization from top to bottom. Such elementary drill as the boys practised was merely similar in character and purpose to that which school children were taught to enable them to move in numbers when necessary without confusion or delay: and the idea of compulsory discipline, without which even the German Army itself would have been a helpless mob, was so foreign as to be almost antagonistic to the first principles of Scouting. In none of the 10 Laws which held 250,000 Scouts together at the outbreak of war as an active association in full working order was there a single "must" or "shall." Indeed, even to call them "Laws" was almost a misuse of the word: for each was a mere statement of what a Scout "is" or what a

Scout does, with no mention of anything which a Scout was obliged to do or even was expected to do. Law 3: "A Scout's duty is to be useful and to help others," comes nearer than any other to an ordinance: but Law 8, "A Scout smiles and whistles under all difficulties" is the sheet anchor of the movement.

How, then, was it possible—one might be

THE SCOUT BADGE AND MOTTO.

inclined to ask—for a force of mere boys, thus undisciplined, to share laurels with the British Army and Navy, as the Prime Minister said, in "being prepared" when the war broke out? Law 1, "A Scout's honour is to be trusted," and Law 2, "A Scout is loyal to the King, his country, his officers, his parents, his employers, and to those under him," supply part of the answer. These made the "honour, straightness and loyalty," of which Mr. Lloyd George wrote, the very essence of Scoutcraft.

But the real explanation of Boy Scout preparedness was that, whereas the Army and Navy were necessarily very complicated machines which could only be maintained in constant working order by ceaseless attention to thousands of details, the organization of the Boy Scouts Association was of the simplest kind, so that it could be adapted at a moment's notice to fill any gap in public service. Many such gaps appeared as soon as the nation began to move hurriedly from a state of peace to a state of war. If the warnings of wise old soldiers, like Lord Roberts, had been heeded, the country might have been able to make the change with less hurry and with fewer gaps. At any rate one of the first contingencies that should have been provided for was the necessity of safeguarding the railways and telegraphs as soon as war became imminent, in order that the mobilization of troops and the transmission of urgent military despatches should not be interrupted. Almost equally obvious should have been the necessity for providing at once some efficient reinforcement of the coast guards to cope with the extended duties which would devolve upon them and at the same time to fill the places of men called up for the Navy. Yet when war came upon the country nothing of the kind was ready in either case: and two large gaps appeared, which would have been highly dangerous to the nation's safety if left unfilled, and exceedingly

THE CHIEF SCOUT (GENERAL SIR ROBERT BADEN-POWELL) ACCOMPANYING QUEEN ALEXANDRA AND THE DOWAGER EMPRESS OF RUSSIA
At an inspection of Boy Scouts.

SEA SCOUTS SALUTING THE FLAG.

A ceremony performed daily at 8 a.m. when the Ensign is hoisted and at sunset when it is hauled down.

inconvenient to fill at that moment with soldiers and sailors. Here it was, then, that the opportunity came to the Boy Scouts to be bracketed with the Army and Navy in preparedness, and within 24 hours of receipt of the intimation that the assistance of the Association would be welcome, Scout Troops and Patrols were moving rapidly to fill the gaps in all parts of the country.

How far prescience of coming events at Scout Headquarters combined with the "Be Prepared" spirit of the Association's work and with some elements of good luck to enable the Boy Scouts thus instantly to fall into place as a "second line of defence" for the country might be no easier to decide than to what extent the coincidence of the Chief Scout's initials, "B. P." influenced selection of the Association's motto: but at any rate it would be unfair to deny to Sir Robert Baden-Powell the legitimate gratification of the war-prophet whose predictions are fulfilled to the letter. In January, 1914, he had told the Scouts that the movement was on the threshold of great developments because the year promised immense national results if the Scouts could rise to the opportunity to "eclipse all past records in their very momentous history." Six years previously he had incurred much harsh criticism, both in Britain and Germany, by predicting that the German programme of frightfulness in war would include the bombardment of undefended towns on the Yorkshire coast, repeating the warning to the Boy Scouts at Scarborough only four days before the whole country was horrified and enraged by the actual bombardment of that seaside resort!

Prophets rarely enjoy—though in this case the word may be scarcely appropriate—so precise and prompt a fulfilment of their predictions; but in looking back upon the shadows of coming events which immediately preceded the outbreak of war, one is inclined to wonder that it should have come as a surprise to anybody; yet it undoubtedly did to the nation at large. Even the utility of the Boy Scouts in assisting to foil the enemy in Britain had been humorously foreshadowed in one of Mr. F. H. Townsend's "Foreign Spy" cartoons in *Punch*, July 6, 1914, almost exactly one month before the declaration of war. In this the spy, manifestly a German, was represented as viewing with horror the

IN A HOLIDAY CAMP.

swarming activity of British Boy Scouts in the approaching holiday season. Never was truth more exactly anticipated in jest: for one of the chief elements of good luck, mentioned above as helping the scouts to fall into line at a moment's notice for the defence of the country, was the fact that the war began at the commencement of their holidays. Sir Robert Baden-Powell had indeed credited the German High Command beforehand with the intention to make its surprise more effective by choosing that particular season for the commencement of war; but, as happened with most of the German calculations, the chosen season proved in many respects the worst that could have been selected for their purpose. Certainly it was so in the case of the Boy Scouts: although a Kaiser who regarded the British Army as "contemptible" would doubtless have considered 200,000 British schoolboys, scattering to the seaside and the country for their holidays, as beneath contempt altogether. Yet the little Scout mouse was able to lend prompter help to the British lion at the moment when it was frisking off to play than it could have lent at any other time. For the Boy Scouts took their holidays seriously, looking forward to them as opportunities for getting on with their real training for the work of life. In other words they were going into their annual training camps and great numbers of them were ready in troops and patrols, with camp equipment, trek-carts, cycles, etc., under their own leaders, waiting for the word. Although the word which came was not that which had been expected, within a few hours they were mobilized, still in their troops and patrols under their own leaders; but the leaders were under the orders of the Chief Constables of the counties. That was all. So far as the boys were concerned, an unlooked-for chance had at the last moment made their holiday camp-work more realistic, more "ripping," than they had dared to hope in day dreams; but for the nation the difference was greater. From that moment the railway bridges, telephone wires, reservoirs, shore-ends of marine cables, etc.—all the exposed points in the central ganglion of the Empire's nervous system—were safe.

But no element of good luck in the date could have secured so large a result in so short a space of time if the Boy Scouts Association had not been a model of efficiency, and this in turn was only rendered possible by two factors, one of which was the simplicity of its organization already mentioned. Under its patron the

King, by whose Royal Charter it had been incorporated on the fourth day of the second year of his reign, and a representative Governing Council, all executive authority was vested in a Headquarters Executive Committee, which delegated responsibility for local administration to each country or dominion of the Empire, with a Commissioner and a Council in each province or county, and District Commissioners working with local associations in every town and centre. Nominated by the local associations and recommended by the District Commissioners, Scoutmasters were appointed to the command of troops, and each troop consisted of two or more patrols of eight boys each, between the ages of 11 and 18, under their own Patrol Leaders. The District Commissioners and the Scoutmasters were the backbone of the movement, and the finding of suitable men for these posts was admittedly the greatest difficulty which the executive had constantly to face, and upon the supply of these the expansion of the Association everywhere and always depended. So far as the supply went, however, it ensured the prompt and perfect working of the machine; because the District Commissioner represented Headquarters and the Scoutmaster represented the boys, and with these two joints working in unison every patrol in any part of the country could be moved at a moment's notice. The way in which the machine actually began to work on receipt of the telegram announcing that the aid of the Boy Scouts would be accepted by the authorities may be illustrated best by quotation of the official report from one District Commissioner to his Local Association. Thus the District Commissioner of St. Albans in Hertfordshire reported :—

1. A meeting of the Hertfordshire County Commissioners was held at St. Albans on Saturday, August 8, when it was determined to place one thousand Hertfordshire Scouts at the disposal of the Chief Constable.

2. A meeting of St. Albans Scout Officers was held on Sunday, August 9, at 10.30 a.m., when it was resolved to mobilize the six St. Albans Troops, as one body, at the Headquarters of the Association at Holywell Hill by 10 a.m. on Monday, August 10, for the purpose of giving assistance to the Local Authorities day and night.

3. The Scouts were assembled at the Commissioner's house by special call at 3 p.m. on Sunday, August 9, and, after having the situation explained to them, were asked to volunteer for service. The response was unanimous. Those present, to the number of 130, were divided into three day watches of four hours each, and one night watch from 8 p.m. to 6 a.m.

4. Headquarters were opened at 10 a.m. on August 10, and work at once commenced.

5. The first order was received by the Commissioner on Sunday, August 9th, to supply a Scout to take despatches to Clapham.

SEA SCOUT EXAMINING A PHOTOGRAPHER'S PERMIT IN A FORBIDDEN AREA.

REVIEW OF BOY SCOUTS IN HYDE PARK: THE FLAGS OF THE DOMINIONS.

6. The following letter was despatched to all the Local Authorities, such as Police, Military, the Mayor, Red Cross, etc.:

"I beg to inform you that the Scout Officials have mustered the local Scouts for the purpose of rendering any possible assistance to the Chief Constable of Herts. So far as their services are not required by him, the Scouts are prepared to give any assistance in their power to the Civil or Military Authorities, day and night, on application being made at the above address."

In every county in the Kingdom practically the same things were being done at the same time, and thus the entire available force of the Boy Scouts was mobilized and came into action in the interval between the end of one business week and the beginning of the next. But the organization, however simple and efficient it might be, was not everything. The Commissioners and Scoutmasters might be the backbone of the movement; but its flesh and blood and muscles were the boys. In the report quoted above, for instance, one little sentence of four words was more important than all the rest: "The response was unanimous." If the boys had not been unanimous in their desire to render service, no organization could have moved them as one boy; nor, indeed, could they have moved themselves. There was something more important than the backbone, more important even than the flesh and blood and muscles of the Boy Scout movement: this was its spirit, the second of the two factors mentioned above which had enabled the Association to become a model of efficiency.

Before the war very few outside the movement realized what that spirit was and all that it meant for the future. One of the few was Lord Kitchener: and soon after the outbreak of war, while Lord Kitchener was still alive, Sir Robert Baden-Powell narrated in the *Boy Scouts' Headquarters Gazette* the following incident:—

Lord Kitchener said to me the other day: "What a splendid thing this war is for you!"

I protested that I did not see it since I am on the Retired List, and therefore not in it. But he quickly corrected me. "I don't mean for you personally; I mean for the Scouts. The Scoutmasters can now show the boys the real meaning and value of all their training, and the boys can see it for themselves." He spoke to the great need for the manhood of the nation to come forward at this critical time, and to the value of the assistance of boys who were wholehearted in their work, and could be trusted to carry it out to the very best of their ability. The Scouts were a great asset to the nation.

Of course, this had not been the opinion of the man in the street. Steeped in easy going theories of *laissez faire*, and incapacitated by continuous relaxation during long years of peace to see the need of preparation for war, he did not even take the trouble to learn what the Boy Scout movement, with its motto "Be Prepared," really was. "Playing at soldiers," he called it, and smiled to see so many little boys spending their holiday afternoons in marching and counter-marching for fun, as he supposed. Even after the outbreak of war when on a country walk he chanced to see a couple of them guarding a lonely railway bridge, or when, on a seaside holiday, he came upon them watching an isolated bit of coast, he still smiled, little knowing that, after he had passed, a note was made of his appearance and that nothing "suspicious" in his conduct would have passed unobserved. A good story, indeed, is told of one man to whom it seemed humorous, when cycling past a lonely railway cutting with a small boy on guard, to dismount and climb one of the telegraph poles in order to "see what the boy would do" when he refused to desist. To his horror the boy whipped out a pocket-knife and cut several handsome slashes in the cycle's tyres, thus making sure, at any rate, that the offender should not escape: and in the end it was not the humorist who smiled. It was possibly the difficulty in which these boys might be placed by anyone who with mischievous intentions had chosen to put on the uniform of a Scoutmaster that hastened the action of the Government at that time in recognizing the uniform of the Boy Scouts (the "B.-P." hat or Sea Scout cap and the fleur-de-lys badge being essential) as "the uniform of a public service, non-military body." Thenceforth it could not be worn by an outsider without a breach of the law, which was a risky proceeding in war-time.

In spite of this insistence upon the "non-military" character of the Boy Scouts Association, there might have been some excuse for the British public continuing to regard the Boy Scouts as embryo soldiers in the fact that the duties which they were called upon to perform were, in many conspicuous cases, those which ordinarily fall to soldiers and sailors. Indeed, one of the minor war-time difficulties of the Association lay in satisfying those well-meaning but mistaken critics who regarded the military and naval work done by the Scouts as evidence that the Association was, as its detractors had always asserted, "militarist" in intention. It was true that war had given a great impetus to the Scout movement, and it was also true that the best training which the boys had ever had

as Scouts was in the practical and valuable work which they did for the nation during the war. Thus the war brought them a great opportunity as well as a severe test, when these keen and expert lads took the place of men needed at the front. But the point which the critics missed

ON DUTY.

was that the reason why the war brought this special opportunity and test of their training to the Boy Scouts was because they had been trained solely and entirely to be good citizens. It was not to perform this or that duty, military or other, that they had been summoned, but merely to help the Government, and when the call came to them "the response was unanimous."

Equally unanimous was the praise which their subsequent performance of their new voluntary duties deserved and received. "The great Baden-Powell idea is justifying itself everywhere," said the *Evening News*, "and the Boy Scout is having the time of his life serving his country in her need." The *Evening Standard* quoted Sir William Mather that "boys seem to acquire higher qualities of character and intelligence as Boy Scouts than they do in eight years at school," and added that "this character and intelligence are just what the nation wants." "No one would have believed a few years ago," said the *Standard*, "that our boys could have thrown themselves so heartily into the objects of that great movement," in which, to quote the *Newcastle Chronicle*, "Sir Robert Baden-Powell 'builded even better than he knew.'" "We have now learnt," said the *Outlook*, "that in the Scouts we have a national asset of present value"; and the *Field*, "Never can General Baden-Powell have imagined the extraordinary benefit which would so soon accrue to his country from his noble task of educating its youth to useful service." "Few realize," said the *Westminster Gazette*, "what the lads are accomplishing for their country and the usefulness to which they devote their loyalty." Similar extracts of subsequently published opinion without a single jarring note could be continued indefinitely; but to these few need only be added the view of the *North Devon Herald*: "When the records of the European crisis of 1914 come to be written up the historian will undoubtedly

SCOUTS' METHOD OF SCALING A WALL.

ascribe to the Boy Scouts their rightful place, for the work which they have been able to accomplish in such a variety of ways passes all comprehension."

That indeed was the keynote of the chorus of eulogy evoked from competent critics by the admirable entry of the Boy Scout upon the duties of citizenship for which he had been trained. Keen, alert, intelligent and active, not only in the emergency work which he undertook at the outset before the adult forces of the Empire had been adequately mobilized, but also in the countless minor tasks which

LEARNING "THE FIREMAN'S LIFT."

the later exigencies of wartime offered to his willing hands, the chief cause of surprise was that, whatever the work might be, the Scout almost invariably performed it as completely and readily as though it were the special kind of work for which he had always been trained. Perhaps the most striking testimony to this fact came from the American Ambassador, who, in presenting medals to the London Boy Scouts who had assisted American citizens at the Savoy Hotel and the Embassy at the outbreak of war, said :—"You did a great deal there: I wonder if you appreciate how much. A great number of people came there disturbed and some even frightened: then you came with your promptness, orderliness and courtesy, by which you helped the ladies and gentlemen working there very greatly." Now, the British, as a race, have always been accustomed to regard their boys as superficially shy and awkward; and assuredly the adult American of either sex had never appeared to be the sort of person whom an English boy would presume to take charge of in an emergency. Yet the Boy Scouts had not only the necessary presumption: they had also, on no less authority than that of the American Ambassador, the "promptness, orderliness and courtesy" which made their control of the situation a cause of great gratitude, not only to the "disturbed and even frightened" American citizens but also to the staff of the Embassy. Nothing but the spirit of the Scout Movement, as expressed in its training, could have produced such transformation in the character of the British boy, but assuredly there was nothing "militarist" in it.

Indeed looking down the long list—there are about 100—of the badges which Boy Scouts in training were encouraged to win by proficiency tests before the year 1914, one is struck by the almost complete absence of any test which seemed even indirectly military. Taking a few at haphazard in the alphabetical order in which they were placed we find badges for proficiency as Farmer, Fireman, Friend to Animals, Gardener, Handy Man, Healthy Man, Horseman, Interpreter, Laundryman, Leatherworker, etc., etc.; but

not one in the whole list, except Marksman, of even partially military character; and although "Handy Man" might be suspected of a naval meaning, its tests of proficiency are such things as whitewashing a ceiling, replacing gas mantles, hanging pictures, putting up blinds, making up parcels, etc. One might wonder what these things had to do with "Scouting"; but the most superficial investigation of the Movement shows that the title of "Scouts" was little more than one layer of the sugar coating on the wholesome pill of moral training, others being the picturesque uniform, the numerous badges and the self-government. The real essence of the training, however, was self-government in another sense, namely—self-discipline to follow a worthy leader, not discipline of the military kind forced upon a recruit by the orders of a commander. If the man who has learned to obey makes a good commander, assuredly the boy who has learned to follow makes a good leader; and the training of the leaders was in the hands of the Scoutmaster, in whom the Association demanded, in addition to technical Scout knowledge and personal fitness to have charge of boys, "a full appreciation of the religious and moral aim underlying the scheme of Scouting." In this was revealed the real spirit of the movement. The religion was not that of any sect, for all sects were welcome and might, if they chose, have troops of their own denomination with religious services to correspond; but so far as the Scout Movement in its entirety was concerned, religion was summed up in the promise made by every Scout on enrolment:—

On my honour I promise that I will do my best—

To do my duty to God and the King,
To help other people at all times,
To obey the Scout Law.

The Scout Law is:—(1) A Scout's honour is to be trusted; (2) A Scout is loyal to the King, his country, his officers, his parents, his employers, and to those under him; (3) A Scout's duty is to be useful and to help others; (4) A Scout is a friend to all, and a brother to every other Scout, no matter to what social class the other belongs; (5) A Scout is courteous; (6) A Scout is a friend to animals; (7) A Scout obeys orders of his parents, patrol leader, or Scoutmaster without question; (8) A Scout smiles and whistles under all difficulties;

BIRMINGHAM BOY SCOUTS BUILDING HUTS FOR THE WAR OFFICE.
Unloading uprights.

BIRMINGHAM BOY SCOUTS BUILDING HUTS FOR THE WAR OFFICE.

(9) A Scout is thrifty; (10) A Scout is clean in thought, word, and deed.

The same high moral aim appeared in every other part of the Movement—in the Royal Charter expressly granted "for the primary object of instructing boys of all classes in the principles of discipline, loyalty and good citizenship," in the promise given by all Officers upon appointment, equally with that of the "tenderpad" aspirant to the honour of joining the Wolf Cub Pack—the Wolf Cubs being boys between the ages of 8 and 12, in training to be good Boy Scouts, just as Boy Scouts were in training to be good citizens and good men. That the Scouts would also be good defenders of their country might have been an obvious corollary to this: but assuredly the making of soldiers was not the purpose of the Association's work.

Trained as we have seen and animated by the Scout spirit of service, 200,000 British boys, strong and healthy above the average and intelligent beyond their years, could hardly fail to be, as Lord Kitchener, Mr. Lloyd George and many others had agreed in saying, a valuable "asset to the nation" in the time of crisis, and undoubtedly the 100,000 who were actually employed in public service during the first year of the war exerted a stabilizing influence upon affairs at home, which had its lasting effect throughout the conflict. In four years of war only about 80,000 won the War Service Badge, specially instituted as an encouragement to the boys and to be a record of the Scout movement in the war: but this was due to the fact that no service for which payment of any kind was received counted towards winning it. Only those Scouts were privileged to wear it who had given free service to the country for 28, afterwards 50, days without a penny of pay. When this is understood the number of 80,000 assumes new proportions and the little badge gains added dignity Nor was it altogether a trifle, beneath notice in the war's history, that many hundreds of Wolf Cubs earned their special War Work Badge, when we consider how the coveted reward for good citizenship yet scarcely in the bud may have aided the evolution of future leaders of men.

But these War badges were not the incentive which made the response of the Boy Scouts unanimous when the call came for their assistance. Indeed the badges were an afterthought, an adaptation of Scout principles as

it were to war-time needs. The good citizenship was there beforehand; and, as has been already stated, it had its hundred or so of badges, instituted to encourage the boys to excel in every imaginable detail of work or conduct which goes toward making a man valuable to the community. In addition to these were three distinctions for service to the Scout movement, graduating upwards through the Certificate of Merit and the Medal of Merit to the Silver Wolf, the wearer of which was recognized wherever he went as a very special Scout indeed; and there were three for gallantry, again graduating upwards through the Gilt Cross for exceptionally good conduct in an emergency, and the Silver Cross for gallantry with risk, to the Bronze Cross for acts that were heroic. That 24 Bronze Crosses were won during the year 1917, to take an example, says a great deal: because in all these matters Headquarters wisely erred, if it erred at all, in maintaining a severely high standard in its judgment of the cases brought before it. Lastly there was the Medal for Life Saving: and, as this depended upon questions of fact rather than the judgment of authority, the number awarded in the same year was 525, more than twenty times as many as the crosses for "heroic acts." Yet for boys, the average man might think the saving of life heroic deed enough.

The badges were not quite all that a good Scout might hope to win: for, although it was contrary to Scout principles to collect money from the public even for good purpose, there was no ban upon collections among themselves; and the speedy realization of £1,487 for the Cornwell Memorial Fund looms very large in a view which also takes in the average contents of a Boy Scout's pocket.

SCOUT DECORATIONS.

1. Cross for Gallantry in Saving Life: Bronze, red ribbon, highest award, for special heroism: Silver, blue ribbon, for gallantry with considerable risk; Gilt, ribbon blue and red horizontal, for exceptional action in emergency without risk. 2. Medal for Merit, gilt. 3. Silver wolf, worn on a green and yellow ribbon round the neck, awarded for special proficiency and "the performance of some extraordinary or repeated acts of bravery, endurance, or self-sacrifice."

The name of Cornwell, V.C., is, of course, familiar to the readers of this History, because his gallantry occupied a deservedly prominent place in the narrative of naval exploits that won the Victoria Cross in the first three years of war. And he was far from being the only naval hero whose devotion to duty in danger seemed to carry on the Scout tradition of more peaceful days at home. One of many was Midshipman Donald A. Gyles of the Broke, who headed the splendid rush of British seamen that cleared the decks of German sailors who swarmed on board from their rammed destroyer. It was a fight of the old fashion, a man to man encounter with any weapon that came to hand; and the new

fashions of the Great War will themselves have become old before the name of "Gyles of the Broke" is forgotten. Certainly neither Jack Cornwell nor Donald Gyles will ever be forgotten by the Scouts; and as handing on the Scout tradition in the Navy it was appropriate that the first "Cornwell" Scout, winner of the test for courage, should have been Edward Ireland of the Britannic, a leader of those Scouts whose calm bravery in the face of imminent death has made "the boys of the Britannic" a familiar phrase of pride to English tongues. When the order was given to abandon the sinking ship the boys refused to get into the boats while any others remained aboard, and Edward Ireland stayed with the captain on the bridge, until he was taken away by a quartermaster under orders just as the ship was sinking. "He was of great service telephoning my orders," the captain wrote afterwards, "and I have great admiration for the pluck that he showed in standing by with the prospect before him of eventually going down with the ship."

It was less, however, in the services, however brilliant, of old Scouts in the fighting fleets that the indebtedness of the Navy to the Boy Scouts lay, than in the indirect assistance which they rendered by watching the coast, thus setting free large numbers of Naval Reserve men for active service, and by acting in various capacities, as signallers, cooks, etc., on auxiliary vessels and helping the mercantile marine whenever opportunity served. Indeed, the story of the Sea Scouts during the war reads from beginning to end almost like one of those tales for boys that popular writers have conceived, in which young lads under their own leaders face men's responsibilities in strenuous days and quit themselves like men throughout.

For the great service rendered by the Sea Scouts, "men of the second line," as they have been called, Lieut. Hordern, who was in charge of their organization, deserved the chief share of credit. It was the biggest opportunity that the war offered, and the boys, under his guidance, rose completely to the occasion, as numerous official reports from Admirals downwards testified. The Sea Scout branch of the Association had always been extremely popular with the boys as giving them a first-class training in boat handling and the elements of seamanship, appealing especially to that love of adventure which is the most marked characteristic of healthy-minded British boys. Like the Land Scouts who were able at a moment's notice to take up multifarious duties in aid of the Government, the military, the police, and public bodies, the Sea Scouts were favoured by the Germans' choice of the holiday season for the beginning of the war, because every Sea Scout who could possibly manage it had just completed his arrangements for attending the annual regatta and training camp. For this purpose they were already standing to attention,

COAST-WATCHING AND WAR SERVICE BADGES.

1-4. Coast Watching Badges, yellow on blue: 1, for 84 days' service, 2, for a full year's service, 3 and 4, for two and three years' service respectively. 5-8, War Service Badges, yellow on red, for periods named thereon. 9, War Service Badge, for 28 days' service. 10, for fifty days' service.

as it were, in their organization of patrols, each consisting of six or eight boys under their own boy leader, which exactly suited coastguard work. Of course, their response to the call was unanimous, and all that they had to do was to march in one direction instead of another, with the added joy of knowing that it could not be called "playing at sailors" this time, because it was the real thing, with the spice of adventure more thrilling than they could have hoped—the adventure of real war. Thus in a moment the

Naval Reserve men were hastening to join the Navy and the Sea Scouts had taken their places down all the long line of coast from John o' Groats to the Land's End. And throughout the war a highly efficient force of 1,400 young coastguards was maintained under veteran coastguard officers and petty officers, duly recognized by the Admiralty and receiving daily pay in lieu of rations. Since boys thus did men's work at a time when the state of war gave it vastly increased importance, the question naturally arose in many minds why should they not continue to do it after the war, when men would be fewer? An active, healthy boy was better suited for such work and exposure in all weathers than a wounded man, and certainly no better training could be found for boys as future citizens. This was only one small detail, however, of the great problem which the war created —namely, how best to utilize the man-power of the nation so that it might never be taken unawares again and at the same time without sacrificing to the idol of militarism in peace time any of the energy that should be devoted to training in good citizenship. When the Boy Scouts Association claimed to have practically solved the problem before it arose by showing that to be a good citizen meant to "Be Prepared" for every duty and every sacrifice for the common good, the Sea Scout on duty as coastguard, doing it well and thoroughly enjoying it as the months and years went by, was certainly a strong piece of evidence in support.

Even on the sea coast, however, healthy boys cannot live upon ozone; so the Admiralty granted to each boy an allowance of eighteen shillings a week, without rations, and the boys did their own catering and cooking, looked after their own quarters and patrolled their own stretch of coast day and night, watch-keeping, signalling, telephoning and cyclist despatch-riding, under the orders of the petty officers in charge of stations. The following are typical extracts from one of the log books which were filled in daily:—

"Warned a destroyer off the rocks in a fog"; "Sighted and reported airship going S.S.E. five miles distant"; "Provided night guard over damaged seaplane, which was towed ashore by drifter"; "Light shown near —— at 3.15 a.m. for seven minutes, and again from apparently the same spot at 4.35 a.m.' "Trawler No.— came ashore Permits all in

LEARNING TO MAKE KNOTS.

order except J. M., who had none. Took his name and address to police superintendent at ——"; "Floating mine reported by fishing boat No.——. Proceeded with the patrol boat which located and blew up the mine"; "Provided guard over wreck and stores three days and nights in —— Bay."

SEA SCOUT ON THE WATCH.

In their spare time the boys, true to their Scout Law to "do a good turn to someone every day," helped the fishermen or farmers round them and won golden opinions from their neighbours. The following is an average extract from the reports of the officers in charge of the service:—

"They are doing excellent work, entirely by themselves. . . . They have never failed to patrol the coast and railway line and to carry their dispatches through by night since August 4, 1914, although, as you can well understand, the weather conditions on some occasions in these parts are very bad."

Let any grown-up person try to realize what it meant to a boy of 14, the minimum age for Sea Scout naval service, who was not, to put it mildly, rich, and consequently found it very hard to get the right clothing for continuous exposure to wet and cold, to patrol four or five miles of a lonely road on a dark winter night and to repeat this day and night for four hours at a time until the Patrol was relieved after its full month of duty. The average adult would say that it needed all the pluck and determination of a man and was almost too much to expect from an ordinary boy. But that is where the average adult, because he had been softened himself by the insidious influences of "civilization" during long years of peace, lacked the insight of the creators of the Boy Scouts Association. He did not realize that the spirit of self-sacrifice which had induced hundreds of thousands of men to volunteer for active service was in their younger brothers too. He had almost forgotten what it was to be a boy. But the Scoutmasters who are the backbone of the Boy Scout movement had not forgotten. They were, as the Chief Scout was fond of saying, boy-men, and when they called upon the spirit of pluck and determination in the boys under them "the response was unanimous," and it was also lasting.

Indeed it was possible that even the grateful surprise of the public on finding that the boy coastguards were really as good

REPORTING TO STATION OFFICER.

as men was an injustice to the boys in some details. At one station, when Scouts arrived to take up the duties of the five men who had been drafted off to the fleet, they found that the coastguard petty officer in charge had procured some meat which he thought would be enough for the boys for that day but he was puzzled how to get it cooked. To his confessed surprise the boys quickly settled the

FLAG SIGNALLING.

matter. The leader told him that the meat was sufficient for two and a-half days and the cook of the Patrol would at once cook the day's ration. Two other boys paraded immediately for duty and the others formed camp, as if they had been doing just this every day. Possibly the petty officer scratched his head as he made a mental comparison between the men who had gone to join the fleet and the boys who had come to take their place. Of course the secret of it all was: (1) that the Boy Scouts Association was an organization for fostering the right spirit in boys—not for creating it, because it was already there; (2) that the Scoutmasters were boy-men with the spirit unimpaired; and (3) that this spirit was the qualification by which Patrol Leaders were chosen. No stronger evidence of this spirit among the boys themselves could be adduced perhaps than the requests of patrols whose monthly relief came just before Christmas 1914 to be allowed to continue on duty. Thus early in the war they had gauged the German instinct for frightfulness and, concluding that the great Christian festival would probably be selected by the Germans for the bombardment of our coasts, they did not want to miss it. They preferred to miss all the joys of home at Christmas.

As a typical instance of Sea Scouts' experiences on coast-guarding duty, the 1st Withington (89th Manchester) Troop received a telegram on January 15, 1915, to provide a patrol for duty at Newbiggin in Northumberland. They arrived in the evening of the 18th, after five hours in the train, and a tramp across a sandy waste in the dark, to find their quarters empty and locked up. Fortunately they had some Oxo cubes and some bread and with the use of the fire in the watch-house to boil water they managed a meal before the key turned up. Then they quietly made themselves comfortable and cleaned out the place next day. The majority remained there uninterruptedly on duty for six months (it was later that the system of monthly reliefs was inaugurated) and, says the report of the Scoutmaster in Manchester, "the appearance of the boys on return from duty on the coast pleased all the parents without exception"—a very striking testimony, from the health point of view, to coastguard work for boys. In addition to their routine duties as coast-guards they did not neglect the Scout duty to do good turns to their neighbours every day, nor their Scout training. Exactly 50 badges were won at Newbiggin, where the

boys had many novel experiences, as the following letter shows :—

Two Zeppelins, most distinctly seen, were, of course, speedily reported. We witnessed a torpedoed steamer gradually settling in the stern and finally, with her bow perpendicular in the air, sink like a shot. We also saw many derelicts, ships which had been damaged by mines or torpedoes. Amongst the wreckage found on patrol could be enumerated almost every conceivable thing—including a battered piano, bicycle, mangling machine, mincing machine, and furniture of all kinds, and eatables, sacks of flour, candles, and any amount of new timber. In the storm one ship was wrecked near us ; a fishing boat was capsized, but the crew was rescued by lifeboats, and we helped to keep back the crowd when the half-drowned men were brought ashore ; two cobles went down in a blizzard, one in our view, with a loss of seven lives. During this blizzard we were unable to get fresh water from the usual place, owing to the terrific gale, so we melted snow and washed and cooked in the resultant water. We were inspected by Lieut.-Commander Hordern, who said everything was most creditable.

Although the Army offered no such separate and clearly-defined outlet for Boy Scout enthusiasm to render service as the Navy provided in the coastguard department, nevertheless the Scout work done in aid of the military authorities was necessarily far greater in the bulk and much more various in character. So far as old Scouts were concerned, those who justified their training by conspicuous gallantry in face of the enemy were of course much more numerous in the Army than the Navy ; and amid the V.C.'s whose exploits have already been narrated in previous chapters devoted to that subject were many who had been zealous Scouts only a short while previously. Among them were Second Lieutenants Craig, V.C., and Haine, V.C., Sergt. Cator, V.C., and Piper Laidlaw, V.C. ; and many more were to be added before that roll of fame was complete, for in almost every monthly list of military distinctions won by ex-Scouts those letters of glory appeared after at least one name in the *Scouts' Headquarters Gazette*. Thus the issue for June, 1918, narrated the "most conspicuous bravery and fine leadership" exhibited by Second Lieutenant A. M. Toye, V.C., and the July issue told how Private R. E. Cruickshank, V.C., three times volunteered to carry a message in the face of seemingly certain death and on each occasion rolled, severely wounded, down the slope he tried to cross amid a shower of bullets. After the third attempt he could not even crawl to cover and was again wounded where he lay. But these and similar exploits of ex-Scout soldiers belong to the military annals of the war, and are only mentioned here because they represent the fruit of that spirit of self-sacrifice in service

A LESSON IN WIND DIRECTION.

which the Scout training fosters from the seed that exists in the nature of every boy.

In one direction, in the formation of a Scouts' Defence Corps, the Association undertook to give actual military training to some of the older boys; but this was a special war-time departure which the executive justified against criticism on the ground that when the country was staking its very existence against the imposition of militarism upon Europe

FIRING A ROCKET SIGNAL.

there was "no harm in helping the older boys to prepare themselves for the defence of their homes if need should arise." With this exception, however, the war-time services rendered to the country by the Boy Scouts' Association, including especially the generous proportion of distinctions won by ex-Scouts in the field, were all illustrations of the seeming paradox that the way to make a nation victorious in war was to train its generations in all the ways of peace, especially self-sacrifice and kindness; and the truth probably was that the Scout Movement helped the country even more by the leaven of the Scout spirit of good citizenship which it introduced into the Army than by any military services rendered, directly or indirectly, by Scouts and ex-Scouts. That the Army quickly learned to value the Scout for all sorts of reasons a thousand letters from the fronts might be quoted to prove. "I am always being asked to teach the Scouts' way of arranging the blankets," writes one. Another says, immediately after enlisting, "Already they have nicknamed me Corporal." "All my boys who enlisted," writes a Scoutmaster, "have been made N.C.O.'s right away." Of his men in general an ex-Scout officer writes: "You've got to show them that you are not afraid, or they won't follow you: it seems to me the application of our Scouting system over again." A Lance-Corporal ex-Scout says: "I find that in our Battalion any chap who has been in the Scouts has no difficulty in getting a stripe." From a Captain: "The Scouts here seem to be doing just as the boys at home are doing, that is, making themselves useful in a thousand different ways and doing it as only Scouts can." From a Major: "I admire and love the Scout movement more and more, the more I get separated from it, instead of forgetting it as one would any ordinary kind of show." From a senior Lieutenant writing of the ex-Scouts in his command: "Grand chaps all of them, and, if it bucks them up to have a Scoutmaster as their officer, it certainly makes all the difference to me to have some Scouts in the ranks." Another officer writes of five ex-Scouts among his men: "They were better soldiers to begin with than the others will ever be." "In my regiment," writes another, "there are twelve ex-Scouts, and five of them are N.C.O.'s, four are in the Battalion Scouts, one is in the Transport and two are signallers"; and a Chaplain wrote that a Scout's "influence upon other fellows was splendid," while Lord Kitchener's great name was associated with the maxim: "Once a Scout always a Scout," because he would "carry out the Scout Law to the end of his days." But perhaps the best of all testimony to the working of the "Scout leaven" came from Captain A. J. Weatherall, of the 5th Royal Scots, who wrote from the hospital at Alexandria, where he was lying with eight wounds:—

> I don't think it an exaggeration to say that the Scout's spirit has permeated the whole national and imperial life to a very large extent. One sees it in the Army and in the attitude of civilians out here. They may not be conscious of it, but it seems as if people were acting up to the Scout Law as they never did before. . . . Our country is passing through a fiery trial, but in God's providence we shall come out of it stronger, kinder and cleaner than we entered.

In this as in the other quoted extracts from "Scout" letters and the thousands not quoted allowance must be made for the enthusiasm of ex-Scouts, attributing the natural goodness of men, which the stress of war had brought to the surface, to the Scout training which they might have received and the leaven of it working to them from others;

but after all deductions the fact remained that the influence of the Scout Law must have been for good in the Army, when good soldiers were so ready to attribute to it all the goodness that they saw in others.

Besides being excellent in quality the Scout leaven in the Army was considerable in quantity also. In the first four months of war, long before the nation at large had been awakened—if it ever was awakened—to the magnitude of the effort demanded of it, 10,000 ex-Scouts and Scoutmasters had joined up: and the great majority of these were officers and N.C.O.'s of repute by the time the bulk of recruits for the New Army came in; and many isolated instances showed how strong the Scout element became later. Thus the 5th Highland Light Infantry contained a company of 240 men, all ex-Scouts, and a unit on detached duty in charge of an advanced dressing station was entirely composed of Scouts. In some regiments, too, Scout troops with a Scoutmaster were formed again and new Scouts were enrolled as in peaceful days of boyhood—with a difference, inasmuch as the swearing-in of a recruit sometimes took place under fire. Of a troop with two patrols formed in one regiment at the front in France the Scoutmaster wrote: "We had quite a gay St. George's Day—a troop meeting—retook our promise in a field—worked at some Scout tests—attended a service in the evening—and had our camp bombed by Fritz as soon as we got to bed." In another characteristic letter from the front the writer says, "I am having a top-hole time out here as a Scout in the Intelligence, and I am proud to wear shorts again. . . . We are for the most part old Scouts, and the splendid name the movement has out here among officers, N.C.O.'s and men justifies our keenness to carry on after the war." In the same spirit an officer writes: "I am constantly meeting old Scouts from all over the world. . . . I have practically made up my mind that when the war is over, unless I am too old by then, to chuck up business and be a whole-timer for the Scouts. Every day I see more and more clearly the absolute necessity of the movement from a national standpoint."

SCOUT AS TYPIST TO COAST-WATCHING OFFICER.

In the same way that the mobilization of the military and civil forces enabled the Government to dispense with the Boy Scouts' services, which were so valuable at the outbreak of war in guarding railway bridges, telephone wires, etc., against evil-doers and foreign spies, so the

WEST AUSTRALIAN SCOUTS AS STRETCHER-BEARERS.

introduction of conscription deprived the "Scouts' Defence Corps" of the function which it might have exercised as a feeder to the Army. At the same time objectors to the Corps were silenced because, when all men of military age were liable to be called upon to serve, nothing but good could result from giving them some preliminary training. It would enable them to start as better soldiers, but it could not increase their numbers. The same argument applied to the aviation classes, with instructors and examiners appointed by the War Office, in which certificates were given to Boy Scouts who were approaching the military age for proficiency in aeroplane fitting and preliminary knowledge of Air Service work. As was natural, these proved highly popular with the boys, and very soon no fewer than nine Air Schools for Boy Scouts were in full operation, doing very useful work for the Army.

It was not, however, by military service, direct or indirect, that the main body of the Scouts, exclusive of the Sea Scouts, established their claim to the nation's gratitude in connection with the Great War, but rather by their unobtrusive but wonderfully efficient help in every department of Government work and public activity. So ubiquitous and so helpful were they that in four years they had almost educated the grown-up citizen to look first for the small figures in the familiar uniform whenever business brought him to any public office, like the famous General who said, "Whenever I go to a new place I always look first for a Boy Scout to act as guide."

When the emergency work which called forth the quoted letter of thanks and praise from the Prime Minister came to an end the Boy Scouts settled down to the steady routine of multifarious useful work, which they maintained with ever-increasing efficiency as the years of war went on. At the different Government offices they were constantly employed as orderlies, dispatch riders and motorists, winning for the Association letters of thanks from various Ministers, especially from successive Directors-General of National Service, as might have been expected, and also, as was equally natural in war-time, from the War Office. The latter applied to the Association at the commencement of the war for 100 Boy Scouts for messenger duty, but the number was largely increased afterwards, and a Scoutmaster from North London was placed in charge of the boys. The work consisted of running about all day with messages and telegrams inside the building, while an Assistant Scoutmaster was responsible for most of the outdoor cyclist work. All the work was very important, and it was a constant race against time, the boys being kept "on the go" from 9 a.m. to 6 p.m. every day, including Sundays, though it was arranged that one-half of the "War Office Troop," as it was called, should have rest on Sunday.

"It cannot be expressed in everyday language," reported the Scoutmaster in 1915, "how very splendidly the boys work and how

careful they are . . . with their hearts full of the importance of what they have in hand." This was not dictated by the mere enthusiasm of a Scout, for the War Office was also so pleased that it arranged to give each boy a week's holiday after three months' work, and the Secretary of the War Office specially requested that some Boy Scouts from the War Office might do duty at St. Paul's Cathedral on the day of Lord Roberts's funeral. The Secretary for War also sent a special letter of thanks to the Association for the good work done by the Boy Scouts in the country in the recruiting campaign.

Equally good and as highly valued was the service rendered to other departments of the Government during the stress of the war, and special mention must be made of agriculture, which became increasingly important, as time went on, to success in the war. A general call was made for Boy Scouts between school and military ages to enrol for agricultural service, and large numbers came forward, taking up work wherever their services were requested. In 1916 these efforts to help were co-ordinated under the Ministry of National Service, which especially asked for Scout labour because it had proved itself "disciplined and reliable." Standing Scout camps were organized in places where labour was badly needed, and in the locality of each camp the education authorities made arrangements for younger boys to attend and help as far as possible, consistently with the needs of their school work. But the bulk of the labour supplied to agricultural districts came from the centres of population. From East London, for instance, a hundred Scouts over school age went in one detachment to Peterborough to weed the flax crops, and a much larger number followed for the flax harvest.

The exigencies of war had given to flax an unusual place of importance in British agriculture, and for weeding alone, in the district around Peterborough, 300 Scouts, drawn from 80 schools in East London, were located in nine camps, each under a Scoutmaster, at distances ranging from 9 to 25 miles from Peterborough itself. They, as well as the Scouts from other centres, were under the Ministry of National Service, which allowed 14s. a head for food and 11d. a day for pay, the whole of the latter, as well as some of the former, owing to the excellent Scout arrangements for catering, being given to the boys, who worked for six hours a day, and with such organized vigour

"OLD SCOUTS" IN EGYPT, 1915.

that local farmers declared they did more in six hours than local boys did in ten. In the end the Ministry of National Service reported: "The Flax Production Department speak in high terms of the excellent organization carried out in the Somerset and Peterborough camps." Then came the flax harvest, which demanded the services of more thousands of Scouts than the weeding had taken in hundreds; but in this, as in all the work which the Scouts undertook for the war, it seemed a foregone conclusion that the bigger the task the more complete the success. In addition to the flax work, agricultural labour of any description was readily undertaken by the Scouts, and land camps that were organized in Middlesex, Suffolk, Dorset and Lincolnshire gave employment to some 500 London Scouts in 1918.

The work done by the Boy Scouts under the auspices of Government, however, was only a part of their helpfulness to the community during the war. The following is only a part of the list of Scouts daily posted, by request, in aid of the military by the camp of a single local association (St. Albans) from 8 a.m. to 8 p.m.:—

6th Infantry Brigade Headquarters, three (one cyclist, one telephone, one messenger); Army Service Corps Depôts (two), four Scouts; Assistant Director Veterinary Services, one Scout; 17th Battalion Headquarters, two Scouts; 21st Battalion Headquarters, four Scouts; 21st Battalion Quartermaster's Stores, two Scouts; 23rd Battalion Headquarters, two Scouts; 6th Field Ambulance Hospital, two Scouts; 6th Field Ambulance Stores, two Scouts; Recruiting Office, two Scouts. The needs of education prevented the continuance of such camps after the first few months of the war; but while they lasted they worked better than even their officers had hoped. To the War Emergency Committees which sprang into existence everywhere in 1914 they were invaluable: and a single detail will illustrate this. The chief difficulty of the Committees was to maintain touch and coordinate their efforts with other localities in the same district, and the Scouts alone could be relied upon to carry dispatches from anywhere to anywhere else in the same county in the shortest possible time. The reason lay in the consistent peace-time practice of Scout cyclists to make themselves familiar with the shortest and best routes from the headquarters of their own local association to the headquarters of every other local association in

HARVESTING.

PULLING AND STOOKING FLAX.

the county; and as every town had a local association which covered surrounding villages there was no spot to which a message could not be despatched at once by a Scout cyclist from any other spot with certainty that it would be delivered and the reply brought back with the least possible delay. In other details of readiness for tackling sudden work the Scout organization was equally useful to the War Emergency Committees at the beginning of the war; and later, when the emergency had passed and the nation's work had been organized to run in official grooves specially cut to suit the times, there were few directions in which a channel was not provided at the same time for the Scout's welcome activities. At war supply depôts the figures of the Scouts on duty were as familiar as the sentries, and as orderlies to staff officers, at soldiers' clubs, etc., they were to be seen everywhere.

The foregoing brief references by no means give any comprehensive idea of the services rendered; for they were so diversified as almost to defy classification, and it was a cause of never-ending wonder how all of these boys, many of them quite small, always seemed to know the right thing to do and the right way to do it in whatever surroundings they might be placed. The Scout spirit embodied in the Scout Law was one-half of the secret, and the other half was the training, mainly self-imposed. It will have been noticed in what has gone before that, wherever a few Scouts or ex-Scouts were gathered together for an hour of leisure, even at the front, one of their first ideas was to "work at Scout tests." Some of these tests, with their resultant badges, have been referred to in their alphabetical order from F to L, and perhaps an enumeration of the others will give the best idea of the reason why a few Boy Scouts collectively seemed able to do anything anywhere. Here they are:—Ambulance man, airman, artist, basket worker, bee farmer, blacksmith, boatman, bugler, camper, carpenter, clerk, cook, cyclist, dairyman, electrician, engineer, entertainer—here follow those previously enumerated from F to L—marksman, master-at-arms, mason, metal worker, miner, missioner, musician, naturalist, pathfinder, photographer, pilot, pioneer, piper, plumber, poultry farmer, printer, prospector, public health man, rescuer, sea fisherman, stalker, star-man, surveyor, swimmer, tailor, telegraphist, textile worker, thrifty man, watchman, woodman. In addition there were the general badges for merit, gallantry and Scout service. And from this list one could get some idea of what the Scout's

favourite occupation of "collecting badges" meant in the formation of his character and the development of his utility as a citizen in the making. And this idea grew more definitely wonderful as one examined the terms of the tests by which the badges were won. Take "cyclist," for instance. Any boy who could ride a bicycle with ease and skill might have thought himself on a par with one of the numerous Boy Scouts to be seen on the road, each wearing a little wheel badge as proof

AN AMERICAN POSTER.

that he had passed the "cyclist" test. But to do this he had to "own a bicycle in good working order, which he was willing to use in the King's service if called upon at any time in case of emergency. He must be able to ride his bicycle satisfactorily and repair punctures, etc. He must be able to read a road map, and repeat correctly a verbal message." This explained why, when a cyclist was urgently needed, the Boy Scouts could supply one who gave satisfaction. Take another badge at haphazard again, say "printer." To win this badge the Scout had to "print a handbill set up by himself, know the names of different types and paper sizes, be able to compose by hand or machine, understand the use of hand or power printing machines." In what office that had anything to do with printed circulars, notices, etc.—and what office had not?—might not a Boy Scout with the "printer" badge have been found amazingly useful upon occasion? When the man in the street, before the war, smiled to see a Boy Scout wearing a dozen or more badges he little thought what all those little ornaments meant; but the nation found out what they meant, with a great sense of gratitude, when the war came.

Perhaps the particular in which the Boy Scout movement differed most markedly from other worthy undertakings in war-time was that it had no Flag Days and no other means of begging from the public. That it would have reaped a golden harvest by those means was certain, because it had won golden opinions enough and the public was always willing to strike these into coin on demand; but the Scout principle was against taking anything for nothing. "Earn as much as you honestly can," it said to the boys, "but do not beg." Even in the case of so excellent an object as the provision of recreation huts and tents for the front the same principle was inexorably observed; and it goes without saying that every man who used, say, the first recreation hut, which the Boy Scouts of Belfast had provided by the systematic collection and sale of old bottles, found added recreation there in the knowledge of its origin. A number of other huts, as well as motor ambulances, were similarly provided, each Scout who was willing and able—and the two were generally synonymous—giving the proceeds of a day's work towards the fund. One special advantage of these huts, which the Scouts supplied with literature, gramophones, games, etc., was that they helped old Scouts who had joined the Army to keep touch with one another and with the movement at home, the visitors' book at one hut containing at the end of three years over 4,000 signatures of old Scouts who had called there for a scouting talk on their way up to the line. As Belfast's hut was built, metaphorically speaking, out of old bottles, so a side-car with trailer and transporter was produced for the Red Cross by Devon scouts out of waste paper. Collecting this was a strenuous job, because the richest hauls were to be made from lonely houses in that hilly country, outside the beat of the professional waste-paper dealer; but in tramping the hills with their loads the Devon scouts gathered

more than waste paper, and more too than the physical health and strength which strenuous outdoor work bestows. To the spirit of self-sacrifice induced by scouting in his early days many a man has owed the resolute nobility of purpose that sustained him in famous deeds for the common good in after years.

Other systematic collections were made by Boy Scouts generally for different objects, such as chestnuts and egg-shells, fruit-stones and nut-shells from the dust-bins of the public. The stress of war-time had given new value to these "waste" commodities. They contained materials essential for war purposes (some of which were not publicly explained), and the Boy Scouts as usual rose—or perhaps it would be more correct to say, stooped—to the occasion, announcements in the Press describing how they commenced their foraging in the dust-bins of Buckingham Palace. Surely, a writer of whimsical stories never had a better theme than the travels of a cherry-stone, hardened by the sun in a Kent orchard, which went via the mouth of a king, a dust-bin, a Boy Scout's basket and a manufactory to Flanders, where it saved the life of a British soldier from German gas.

In helping the police, especially during air raids in London and the provinces, the Boy Scouts came more into prominence, perhaps, than by any other of their civilian efforts; although as the "All Clear Boys" their popularity with the public on this account may have been enhanced by gratitude for the message which their bugles brought. Still, for the citizen lying snugly and, as the Scout bugles told him, safely in bed there was food for thought in the vision of whole patrols of Boy Scouts, immediately after warning of an air raid had been received, assembled at each police station with their cycles and bugles, waiting until the raid should be over to ride out in every direction spreading the welcome message down the darkened roads, whatever the hour of night might be. This, however, was by no means the only service rendered by Scouts for the police during air raids in London and other big centres. As orderlies and messengers and in dealing with the wounded they were invaluable, and in rescuing people from wrecked houses and preventing conflagrations from broken gas-pipes, etc.; and the frequent ceremonies, reported in the Press, of the presentation of medals to Boy Scouts for services rendered upon such occasions showed that

COLLECTING BOTTLES FOR SALE FOR THE PROVISION OF MOTOR AMBULANCES.

their work was effective and appreciated. Letters from Chief Constables concerning their behaviour during bombardments of coast towns told the same story; and the following is an extract from the report of one such occurrence:—

According to the scheme previously arranged, Scouts attached to the Cyclist Section of the Local War Emergency Committee were dispatched with all speed to call up the special constables in different parts of the district. Another section were told off for duty directing the women and children to a place of safety, assisting the infirm, and carrying children and baggage. A patrol of scouts were dispatched to help the Fire Brigade and perform salvage work, rescuing valuable books, etc., from the flames and ruins caused by the shells. . . . A relay of Scouts is attached to the constabulary and doing other very useful work. They are on duty for the same hours as the police, eight hours' reliefs day and night, and receive weekly pay. The Chief Constable states that they are very intelligent and smart in their various duties.

Hospital authorities and various public bodies, as well as individuals in public or private capacities, also availed themselves freely of Boy Scouts' war-time services and always, it seemed, with complete satisfaction, which assuredly was not diminished by the knowledge that money earned by a Scout in this way was always devoted to a good purpose, if only to defray the cost of his uniform. Indeed, not the least wonderful feature of the success of the Boy Scouts Association was that it was financed without any of the spectacular appeals for public assistance upon which other worthy undertakings so largely depended. At the outset, indeed, local associations had to work hard locally to raise in a few days sufficient funds to start and equip the Scout camps; but the Association as a whole was relieved from the embarrassment of working without funds by the fortunate accident that when the war came it had just succeeded in raising half of the money needed for its £200,000 Endowment Scheme, and on this the trustees felt justified in sanctioning expenditure up to £10,000. Never was that amount put to better public service.

Financially, as in all other respects except obedience to the Scout Law, the branches of the Boy Scouts Associations in the Dominions and the self-governing colonies were to a great extent self-governing; but there was no difference in the spirit and not much in the methods by which they tackled the new problems and seized the new opportunities presented by the war. Thus, taking Canada as the leading type, the Boy Scouts Association there was under a General Council, as in England, and its uniform was officially recognized as that of a "public service non-military body." Distance from the seat of war deprived the Canadian Boy Scouts, indeed, of most of the conspicuous chances for distinction which the Scouts in England used so well; but the pre-eminence of the Dominion as a food-producing factor of the Empire gave them a clear line to follow. Therefore, in addition to work for the Red Cross and Patriotic Funds and in aid of recruiting, they specialized in agricultural effort to replace the labour of men who had enlisted for service in Europe, by work in "the reserve trenches in the farms of Canada." For these activities the two War Service Badges were adopted, representing 84 hours' and 100 days' labour respectively, and in 1918 the S. O. S. (Soldiers of the Soil) Badge was instituted by the Canada Food Board for lads between 13 and 19 who completed three months of satisfactory agricultural service. Another method by which Scouts assisted to increase Canada's output of food for the war was by establishing Greater Production Camps for the cultivation of vacant lots in the towns and cities. During school terms the boys cultivated the lots in their spare time and moved into the camps as whole-time agriculturists for the holidays.

In the Dominion as in England, it was the Scout spirit which the boys put into their work that made all the difference. They helped "war widows" especially by looking after their gardens for them, and the newspapers were constantly recounting acts of unselfish devotion performed by Scouts. When, to take an instance, the firemen struck work at Winnipeg, a twelve year old Boy Scout went to the station four times a day to attend to the horses single-handed. This was his way of making good his war-time pledge as a Scout to "do something every day to help win the war." The Canadian Boy Scouts also were not behind their English comrades in exhibiting the "promptness, orderliness and courtesy," for which the American Ambassador in London thanked the latter. On behalf of the Daughters of the Empire Order in Alberta a communication to the Provincial Scout Secretary runs:—"May I take this opportunity of expressing to you our admiration of the wonderful discipline, common sense, willingness and alertness of the boys, and may I especially congratulate the officer in charge? He was simply splendid. If ever they need a helping hand in any under-

SOUNDING THE "ALL-CLEAR" AFTER AN AIR-RAID.

taking the Daughters of the Empire would deem it an honour to assist so efficient a band of Scouts." Thus the old rule that "one good turn deserves another" works all the world over; and when hundreds of thousands of Boy Scouts scattered over the Empire were carrying out their law to do a good turn every day in helping to win the war the cumulative effect must have been great indeed. It brought the spirit of knight-errantry, of the Patron Saint of the Scouts especially, into activity against the hideousness of the German War. "We are realizing," wrote the *Canadian Headquarters Gazette* of the Boy Scouts, "that

THE DUKE OF CONNAUGHT INSPECTING CANADIAN CYCLIST SCOUTS.

St. George is not a dead legendary hero, but that his spirit is reincarnated, as our enemies are finding to their cost :—

> St. George, he was a fighting man—he's here and fighting still
> While any wrong is yet to right or dragon yet to kill.
> And, faith, he's finding work this day to suit his war-worn sword,
> For he's strafing Huns in Flanders to the glory of the Lord."

It went without saying, of course, that among the splendid Canadian soldiers who voluntarily enlisted to fight in France and Flanders the Scouts were represented in generous proportion. The thoughts of their comrades at home followed them in the same practical shape as it took in England ; for the officer in charge of a tent that was supplied by a ten-cent subscription of Canadian Boy Scouts wrote that it had witnessed the Canadian share in the fighting of the Third Battle of Ypres, the Battle of the Somme, Vimy Ridge, Hill 70 and Paschendaele. For eighteen months it had served many thousands of men in turn as a house of worship for all communions, a place of recreation and a protection during inclement weather. At Passchendaele it was too damaged to be a tent any longer, so parts of it were made into a canteen ; but the August storms were too much even for these, and it "fluttered out a glorious existence" just before the men moved away. Meanwhile the flag, which had been deposited with the Boy Scouts for safe keeping when the troops left Ottawa, was being used in Victory Loan efforts and in war exhibitions throughout Canada.

In India—where the Ootacamund Troop had the honour of being the first Boy Scouts to offer themselves for war service—politically, climatically and geographically, almost as far removed as possible from Canada, the same family resemblance to British Scouts' war work, with only a difference of complexion as it were, was maintained. In all the Government offices at Simla, as at home, Boy Scouts were to be seen, and in Calcutta they were busy in helping the police to locate Germans and as orderlies and special messengers. With their intimate knowledge of Calcutta as cyclists they delivered in a few minutes messages over which an ordinary sepoy or chupprassi would have taken hours, and they could be trusted to deliver an important letter into the hands of the Sahib to whom it was addressed, instead of his native servant. And in India, no less than in Canada or Britain, the Scout spirit in which war-work was done proved almost more valuable than the work itself, because the greatest obstacle in the way of bringing India into a worthy place in the community of the British Empire was always the seemingly impassable gulf between the governed and

governing races. In some respects, however, boys are a community by themselves, however widely their races or classes may be sundered. When common interests are found, the freemasonry of youth gives the password through social, racial and religious barriers. So the Boy Scouts Association in India, working wisely in conjunction with the India Office at home, was doing much in unobtrusive fashion during the years of war to bring about closer touch between British and natives.

In South Africa more open effects of the same good work were seen, because the gulf between British and Boer was far narrower, in spite of the recent memories that clung to the names of Mafeking and Baden-Powell; and it was at Durban during the war that Sir David Hunter, K.C.M.G., closed a long life-work spent in the Empire's service with a dying message "to the Boy Scouts who bulk so largely in my mind as the hope of the future." A contingent of Natal Boy Scouts headed his funeral procession, and a Boy Scout sounded the Last Post. One of the latest acts of Lord Gladstone's Governor-Generalship also was to give £100 towards the Union Scout Council. Indeed, a noticeable feature of the reports of Scout activities during the war, which were constantly being received from all parts of the Empire, was the frequency with which sentences recurred stating that "H.E. the Governor-General" or "H.E. the Governor" took a leading part in whatever Scout function was referred to.

Even from Egypt, which only definitely became a British Protectorate in December, 1914, after the war had lasted several months, the words of an officer have been quoted above describing how the Scout's spirit permeated the country. In the same letter he wrote: "One of the first things I saw in Alexandria the evening I came off the hospital ship was the old familiar Scout uniform, and a very cheering sight it was. Next day I saw four boys up here at the hospital, evidently on duty as cyclist messengers. The Scouts here seem to be doing just as the boys at home are doing—that is, making themselves useful in a thousand different ways, and doing it as only Scouts can."

Everywhere, of course, the war gave the same great impulse to scouting; for youthful imagination was fired at the prospect of really helping to win the war, while parents were forced to abandon the "playing at soldiers" view of the movement. Even boys who did not join the Scouts unconsciously began to imitate them, and from the distant Bahamas a war-time writer, after

TAKING WOUNDED OFFICERS FOR AN AIRING.

noting the great improvement that had come over the juvenile population in the respect they showed to their seniors, added: "The Boy Scouts have done that."

In South Australia one year of war raised the Scout troops from 8 in number to 18. In the Gold Coast, 5 troops, with 330 Scouts, rose within a month to 9 troops, with 867. In Uganda the Scouts were officially recognized and held in readiness as the second line of defence; and from Sierra Leone, where there were 10 troops at the outbreak of war, it was noted that the coloured Scoutmasters particularly did yeoman work. In the Sudan there were active troops, both at Khartoum and Atbara. In the Malay Peninsula there were 4 troops. At Port of Spain, in Trinidad, there were 9 troops; and everywhere, in addition to the ordinary war work of orderlies, cyclist dispatch riders, messengers, etc., special local circumstances created new duties for willing hands in the emergency. Thus, in Jamaica, Scouts supplied permanent buglers and signallers for the Reserve Regiment; at Malta, which was always a busy camp of passage, they were constantly on duty in readiness to guide newly arrived troops to their right barracks; in British North Borneo, by acting as regular signallers on land for the warships, they saved the latter much time and trouble that would otherwise have been spent in sending boats ashore. The catalogue might be indefinitely lengthened, because, in addition to the places mentioned, good reports were received and published in the *Headquarters Gazette* from time to time from the Transvaal, Cape Province, West Australia, New South Wales, Ontario, Manitoba, Saskatchewan, British Columbia, New Brunswick, Nova Scotia, Prince Edward Island, New Zealand, Shanghai, Gibraltar, Barbados, St. Vincent, Antigua, Bermuda, St. Helena, Mauritius, Nigeria, Singapore, Selangor, Ceylon, Cyprus, British Guiana, Newfoundland, Tientsin and—Baghdad! Even in the second year of war there were over 1,000 troops actively assisting the Empire in its overseas dominions, and the number increased almost daily while the war lasted. Of course, every troop, consisting perhaps of only two or three patrols of eight boys each, working quietly in its own locality, could not be expected to do anything worthy of permanent record; nevertheless, the cumulative achievement of these busy young workers intelligently seeking only to put themselves where they could be most useful must have been substantial, while a much greater harvest of good result could confidently be anticipated when the generation which had risen so well to the occasion in youth should be raising another generation. "Once a Scout,

BORNEO SCOUTS, 1918.

CAMP OF FIRST MORDIALLAC TROOP OF BOY SCOUTS, EMERALD, VICTORIA, AUSTRALIA.

always a good citizen" is the natural corollary of Lord Kitchener's saying.

Foreign countries had not been slow to see the value of the Boy Scouts Association, and at the commencement of the war there were more than half a million Scouts in training outside the British Empire. In Germany great use was made of them as orderlies, and in the performance of their duties they did not escape the Iron Cross; but the vast majority were Allies, and even in neutral countries they seemed sensible of a bond of friendship for Britain as the parent land of scouting. Thus in Switzerland the Boy Scouts rendered admirable service to British refugees and worked hard in collecting relief funds for Allied Scouts in distress. In Holland the menace of war was near enough to concentrate attention upon the needs of the Dutch troops, and for these the Boy Scouts did great work, on one occasion collecting as many as 20,000 cigars for the soldiers in two hours in Amsterdam alone. From Denmark came many tokens of friendship, not least in the visit of Captain Ewald, R.D.N., President of the Danish Sea Scouts, to Britain, where he recorded his opinion that "the British Boy Scout is a splendid product of the British genius for the development of character in accordance with the finest traditions of the race," and assured the Scouts that their Danish brethren would be greatly interested to hear from him of "the immense services rendered by the British Scouts in their country's interests." Finally, he assured the latter that whenever any of them should visit Denmark they would be sure of a hearty welcome. Thus even during the war the Scouting movement was having effect in neutral countries in producing an atmosphere of friendliness which would have great international value after the war.

In nearly all the Allied countries of Europe the Boy Scouts' activity which awoke with glorious enthusiasm on the outbreak of war soon involved them in cruel disaster. In Belgium, Serbia, Rumania, Northern France and Russia not the least heart-breaking of the tragedies which accompanied the progress of the German arms were the sufferings of the Scouts, marked as they were by their uniform as suitable objects of Teuton frightfulness. The bright side of the picture at the same time was the heroism with which suffering was endured. The Scout spirit which had moved the lads to essay men's work in defence of their country also gave them men's fortitude to endure when that defence was broken down.

And no doubt from the German military point of view the Scouts had earned their penalty. When the invasion of Belgium had just commenced a Press special correspondent wrote:—

> The Boy Scouts are all over Belgium. It was a Boy Scout (looking exactly like an English Boy Scout, even to his neckerchief and khaki shirt) who took my pass to a member of the General Staff at Army Headquarters in the field yesterday. It was a Boy Scout who showed me the route from one village to another when I lost my way, and it was a Boy Scout who helped to capture a German cavalryman near Liège last week. I was at the station when a troop train arrived with a tremendous uproar. Every window framed a mass of tousled heads as the men of the 11th Regiment demanded water. It arrived without delay. Boy Scouts, detailed to slake the thirst of an army, filled great tins at the station taps and went methodically from carriage to carriage. In less than five minutes the regiment had drunk its fill and replenished its water-bottles, and the train moved away. One is inclined to laugh when a grey-bearded general comes to the door of his office

and shouts "Boy Scoot!" but they are playing a very serious part in the affairs of the Belgian army.

Small wonder, when the first wave of the German tide engulfed Liège, that the Germans disbanded the local Boy Scouts, calling them "*enfants terribles*"—and worse in German: for it was well known that they had tracked down many German spies.

Belgium was indeed the first country to make general use of the services of the Boy Scouts in time of war, and about 4,500 were so employed, all boys of certified intelligence and good character and over 14 years. In Brussels they were chiefly used as dispatch riders between the various departments of the Government, as orderlies at Red Cross depôts, and as police during the day, patrolling the streets with authority to summon adult assistance in case of any disturbance, and more than a hundred were daily engaged in collecting money for the various War Funds. Each lad wore a band on his arm with the letters "S.M." —"Service Militaire"—and worked from 8.30 a.m. to 8.30 p.m. Everywhere they were

EMPIRE DAY IN MALTA.

LAMP SIGNALLING, 1st VANCOUVER TROOP.

to be seen with cycles, motor-cars or trek carts, carrying dispatches or transporting stores; otherwise in their general duties they constituted an adjunct to the Garde Civique, a voluntary force analogous to Special Constabulary, which had been called out on the commencement of hostilities. They were similarly employed in other Belgian cities, and when the German invasion swallowed these up one after another they had become so integral a part of the military system that, whenever possible, they retreated in good order with the working staff of the Army, sharing its dangers and privations. Thus in the following year General Baden-Powell had the pleasure of inspecting, in the little corner of Belgium which the Army still held, a corps of Belgian Boy Scout cyclists under the same Scoutmaster who had commanded them as a troop of orderlies in Antwerp at the beginning of the war. During the same visit King Albert told the General that he considered the Scout Movement "one of the best steps of modern times for the education of the boy." He said that his own son was an enthusiastic Scout, and the Belgian boys who had taken it up were quite changed for the better and had done valuable service in the war. Scout training, the King said, "gave the very best foundation for making good soldiers": and what King Albert did not know about a good soldier mankind has yet to learn.

In other Allied countries which suffered German invasion, the Boy Scouts similarly shared the fate of their armies. By superb generalship and with the timely support of French and British troops, the Belgian Army was indeed enabled to retreat, always fighting, backwards to a corner of the country which even the German hordes could not overrun: but elsewhere, as in Serbia, no adequate Allied aid could be given. Disaster was there far more complete and the sufferings of retreat more appalling, aggravated by the difficulty of the country, the badness of the roads, the severity of the climate in the passes and the unchecked brutality of the invader. In this retreat the sufferings of the Boy Scouts were almost the most poignant detail of the tragedy; but they could not have been left behind, even had they been willing to remain, to take their chance with the old men, women, and other children at the mercy of German and Austrian conquerors. The Army had to collect its Boy Scouts in order to save them, for the advancing enemy in many places was shooting

INSPECTION OF SCOUTS, BRITISH HONDURAS, MAY, 1918.

every one of them as a *franc-tireur*. During the terrible flight from the Danube up to the Ægean and Adriatic coasts "thousands of the boys perished from hunger and exhaustion in the snow-bound mountains of Albania" according to the report of Captain C. J. K. Tanovitch. Afterwards the remnants were collected and reorganized, and the great gaps made in the retreat were filled with new members recruited from the refugee population; but all were destitute and almost all were orphans. Such was the fate of the Serbian Boy Scouts in the war—scattered among foreigners, and their country subjugated and oppressed, but still resolute to do their duty on the Salonika front where the Allies were able to make a stand against the common enemy. Nor were their British comrades unmindful of the sacrifices which the boys of Serbia and other countries ravaged by the Germans had made for the cause. A fund was opened in July 1918 by the Boy Scouts Association for the relief of the Scouts of Allied countries and generously supported.

To tell in detail the story of the Boy Scouts of Rumania would only be to repeat the tale of Serbia's sufferings, for the fate of Rumania and its boys differed only in local circumstances up to the point when a surrender that was called a "treaty of peace" was extorted, and even worse was the lot of the Russian Scouts who, true to their Cross of St. George and their Scout promise to honour "God and the Tsar," only escaped invading Germans to fall under the wild tyranny of the Bolshevists. Over the tragedy of the interior of Russia under Bolshevist rule hung a pall of mystery, but one of the lurid flashes which illuminated the preliminary fighting in Petrograd revealed that boys, who resisted loyally, were massacred and flung into the river. That they were Boy Scouts was not stated; but if the Russian Scouts were behind any other boys in risking danger from loyalty they would have been very different from their comrades in all other parts of the world.

In Northern France the Boy Scouts endured almost the same experiences as their confrères in Belgium, and they faced their troubles with the same undaunted spirit. From Lille in particular, where the Association had been strong, they managed to keep together in retreat and re-formed their troops at new centres far from their devastated homes, like the Belgian Scouts of Antwerp. Like the Belgian Scouts, too, they were officially recognized and freely used in France generally. When the reservists had to be called up the work was given to the Boy Scouts and was carried out by them in a few hours; but their chief employment was as orderlies and messengers for public offices and hospitals, where it was noted that, besides the doctors, the only people

in France who were willing to tend the German wounded were Boy Scouts.

As in Britain the Prince of Wales was Chief Scout for Wales, and in Belgium the King's heir was an enthusiastic Scout, so in Italy the Crown Prince had made himself an efficient member of the organization, which was closely modelled, as in other countries, upon English lines, and resolutely followed the alternating fortunes of the war in retreat and advance with the Second Line behind the fighting troops.

In Greece also, when that misrepresented country at last was free to follow its national inclination to the side of the Allies, the Boy Scouts' organization proved a worthy replica of the British pattern. In scores of ways the Scouts made themselves extremely useful to the Salonika forces, not least in the gallantry which they showed in fighting the great fire in Salonika when no fewer than six of them lost their lives and many were hurt; and in the military celebration of France's day no feature of the procession was more enthusiastically cheered by the French troops and their Allied comrades than the contingent of 150 Greek Boy Scouts who took part in it.

In Portugal, more remote from the war's alarms than any other Allied country of Europe, the Boy Scouts worked on the same lines in helping the Government, collecting for war funds and alleviating distress.

Last but not least the Boy Scouts of the United States, 250,000 in number, set themselves to war work of all kinds within their reach, as soon as their Government had entered the war, with the characteristic vigour of their race. As they had exactly copied the English training for Scoutmasters, the English-speaking Scouts of the whole world were working on exactly the same pattern, although distance from the scene of European war and late participation in the conflict deprived them of some of the more thrilling chances of service which came to the Scouts of Britain and many other parts of the Empire. Nevertheless, they were behind no one in their well-directed zeal for relieving distress caused by the war, while in the pushing of war loans they may be said to have led the world; and, like Canada, they had a practically limitless field for their energy in increasing the Allied food supplies by helping agriculture. "Every Scout to feed a soldier" was the war cry of their campaign, winning,

CODRINGTON COLLEGE TROOP, BARBADOS.

by the earnest thoroughness of their prompt work, the warmest praise from President Wilson and many leading officials.

Thus within the world-wide ring of nations allied to defend democracy from destruction there had been formed an inner ring of smaller hands across the sea, whose holding force could not fail to be felt as the years passed and successive drafts of men who had received Scout training for good citizenship passed up to take their place as citizens of the free world. No one could question the wisdom of the Governments that viewed the boys' efforts with paternal sympathy, or of kings who allowed their sons to wear the levelling uniform of the Scouts; for assuredly, to whatever exalted class a boy might be privileged to belong, the Scout Promise and Law, faithfully observed, levelled him up, not down.

That the Boy Scouts of Britain and the Allies added honour to this uniform during the war may be the highest praise that can be bestowed; but famous Admirals, including Sir John Jellicoe and Sir David Beatty—successive Commanders of the Grand Fleet—and Generals, including Lord Kitchener, and Sir W. R. Birdwood, as well as Ministers of State, including the Prime Minister as the Secretary for War, with the Press of every shade and men of public note in every degree vied with one another in unstinted commendation of the Scouts' good work well done. Let us sum up the general verdict in the words of the veteran statesman, Lord Rosebery:—

"If I were to form the highest ideal for my country, it would be this—that it should be a nation of which the manhood was exclusively composed of men who have been, or were, Boy Scouts and were trained in the Boy Scout theory. Such a nation would be the honour of mankind. It would be the greatest moral force the world has ever known."

FLAX PULLING.

CHAPTER CCLIV.

THE ALLIED COMMAND IN 1918: MARSHAL FOCH.

WHY UNITY OF COMMAND BECAME NECESSARY IN 1918—INEFFECTIVE CO-ORDINATION IN PREVIOUS YEARS—MR. LLOYD GEORGE'S PARIS SPEECH, NOVEMBER, 1917—THE VERSAILLES COUNCIL—OPPOSITION AND DEVELOPMENT—SIR W. ROBERTSON SUCCEEDED BY SIR H. WILSON—THE CONFERENCE AT DOULLENS, MARCH, 1918—FOCH BECOMES COMMANDER-IN-CHIEF—FOCH'S LIFE AND TEACHING—FOCH'S WORK IN THE WAR—THE GAP OF CHARMES—FIRST BATTLE OF YPRES—SUBSEQUENT OPERATIONS—FOCH AND HIS NEW TASK.

PREVIOUS chapters have shown how the campaign of 1917 ended, on the Western front, in the disappointing Battle of Cambrai—a brilliant success gained by surprise, but not maintained and promptly followed by a serious set-back. The Battle of Cambrai (November-December, 1917) was itself the sequel, and to some extent the consequence, of the disaster which had befallen Italy towards the end of October, a disaster which is described in a later chapter of this History. As will be related, the following months of winter were comparatively uneventful, but on March 21 the Germans struck again with great force, and they won startling successes, first in the direction of Amiens and then in the direction of Ypres. It was not until, seemingly in full possession of the initiative, they won the Chemin des Dames, Soissons, and the passage of the Aisne, but advanced across the Marne without either effecting the essential success to the east of Reims or securing their right flank in the Marne salient, that Allied generalship was able to strike back and to turn their victories into heavy defeats.

As will in due course be seen in these pages, the dramatic change of fortune in the summer of 1918 was due to various causes; the most material factor was that, while the Germans did not really succeed in pushing home any one of their blows, their success acted as a most powerful stimulus upon the United States, and American help flowed into the Western theatre of war in an abundance that was hardly conceived possible either by friend or foe. But the main reason why it proved possible to reap the fruits of the changed situation was that in the bitter experiences of the autumn and winter of 1917 and the spring of 1918 the Allies at last learnt the lesson that unity of command was the first essential of victory. The present chapter describes the gradual removal of the many political and other difficulties, and the gradual achievement of unity and single control through the appointment of General, afterwards Marshal, Foch to be Commander-in-Chief of the Allied Armies in France. An account is then given of Foch's career.

By the accident of war the original British Expeditionary Force of 1914 found itself speedily embedded in the midst of the French line. But it was moved as soon as possible to the left flank, and, subject to various fluctuations and accommodations, the point of contact between the British and French Armies remained clearly marked throughout the next three and a half years. It will always remain

difficult to determine the extent to which our failures and the curtailment of our successes in particular operations were due to the cumbrous system of divided control, which required constant negotiation concerning both the strategy and tactics to be adopted and the parts to be assigned to the respective forces. The reader will remember how often, even while Russia retained her full strength, the careful planning of simultaneous offensives in the various theatres of war collapsed at the moment of action. It did not always prove possible to combine even the simultaneous blows of the French and British Armies. And now, when the collapse of Russia ended for the time all possibility of co-ordinated operations in East and West, it was found impossible, under the existing system of negotiation, even to co-ordinate the efforts of Great Britain, France, and Italy. In reality the wonder was that the system worked as well as it did. While Germany was imposing her single will upon all her allies, the Entente Powers were held together by incomparable devotion to their common cause and their common ideals. The German efforts to sow dissension, and to create the impression, now in this country and now in that, that it was being "sacrificed" and "victimized" by its selfish and niggardly allies, were at all times a dismal failure. Yet the fact remained that, in spite of the constant readiness of all the Entente Powers to play their part and to contribute not a calculated share of the burdens but the whole of their resources, their several efforts could not, as things stood, be combined to yield the fullest possible results, and the Germans, with the advantage both of interior lines and of a ruthless but effective control of their allies, could at all times profit by sudden concentration of their effort in any particular direction. A great deal had been done to unify control in the respective countries—in England by the small War Cabinet system organized under Mr. Lloyd George and the development of the Imperial General Staff. But it was not enough. Unfortunately real and thorough reform could be effected only by taking the risk of temporary dissensions as a result of facing the personal and political obstacles which stood in the path.

On November 12, 1917, in the grave situation created by the invasion of Italy, Mr. Lloyd George delivered a momentous speech in Paris at a luncheon given by M. Painlevé, then French Prime Minister. It had just been announced that the French, Italian, and British Governments—there was no time for prior consultation of America and Russia—had decided to set up a Supreme Council of the Allies' whole forces operating in the West. The Versailles Council, as it came to be called, was to consist of the leading Ministers of the Allied countries, advised by some of their most distinguished soldiers. The agreement between the three Governments, which Mr. Lloyd George read two days later in the House of Commons, was as follows:

1. With a view to the better co-ordination of military action on the Western front a Supreme War Council is created, composed of the Prime Minister and a member of the Government of each of the Great Powers whose Armies are fighting on that front. The extension of the scope of the Council to other fronts is reserved for discussion with the other Great Powers.

2. The Supreme War Council has for its mission to watch over the general conduct of the war. It prepares recommendations for the decision of the Governments, and keeps itself informed of their execution, and reports thereon to the respective Governments.

3. The General Staffs and military commands of the Armies of each Power charged with the conduct of military operations remain responsible to their respective Governments.

4. The general war plans drawn up by the competent military authorities are submitted to the Supreme War Council, which, under the high authority of the Governments, ensures their concordance and submits, if need be, any necessary changes.

5. Each Power delegates to the Supreme War Council one permanent military representative, whose exclusive function is to act as technical adviser to the Council.

6. The military representatives receive from the Government and the competent military authorities of their country all the proposals, information and documents relating to the conduct of the war.

7. The military representatives watch day by day the situation of the forces, and the means of all kinds of which the Allied Armies and the enemy armies dispose.

8. The Supreme War Council meets normally at Versailles, where the permanent military representatives and their staffs are established. They may meet at other places as may be agreed upon, according to the circumstances. The meetings of the Supreme War Council will take place at least once a month.

Mr. Lloyd George proceeded, with what he himself called "brutal frankness"—and in terms which were not perhaps in all details well considered, as was inevitable in such a summary review—to sketch the history of the war as proof of "the need for greater unity amongst the Allies in their war control." The Allies, he said, had passed endless resolutions, but had "never passed from rhetoric into reality, from speech into strategy."

In spite of all the resolutions there has been no authority responsible for co-ordinating the conduct of the war on all fronts, and in the absence of that central authority each country was left to its own devices. We have gone on talking of the Eastern front and the Western front and the Italian front and the Salonika front and the Egyptian front and the Mesopotamia front,

M. Franklin-Bouillon. M. A. Dubost. Mr. Lloyd George. M. Painlevé. M. Berenini. M. Deschanel.
MR. LLOYD GEORGE SPEAKING AT THE MINISTRY OF WAR IN PARIS, NOVEMBER 12, 1917.

forgetting that there is but one front with many flanks; that with these colossal armies the battlefield is continental.

As my colleagues here know very well, there have been many attempts made to achieve strategic unity. Conferences have been annually held to concert united action for the campaign of the coming year. Great generals came from many lands to Paris with carefully and skilfully prepared plans for their own fronts. In the absence of a genuine Inter-Allied Council of men responsible as much for one part of the battlefield as for another there was a sensitiveness, a delicacy, about even tendering advice, letting alone support for any sector other than that for which the generals were themselves directly responsible. But there had to be an appearance of a strategic whole, so they all sat at the same table and, metaphorically, took thread and needle, sewed these plans together, and produced them to a subsequent civilian conference as one great strategic piece; and it was solemnly proclaimed to the world the following morning that the unity of the Allies was complete.

That unity, in so far as strategy went, was pure make-believe; and make-believe may live through a generation of peace—it cannnot survive a week of war. It was a collection of completely independent schemes pieced together. Stitching is not strategy. So it came to pass that when these plans were worked out in the terrible realities of war the stitches came out and disintegration was complete.

It is not necessary to follow the Prime Minister's account of the political and strategic fiasco in the Balkans. But, as regards the events of 1917, he declared that after the collapse of Russia the plans of the Allies proceeded as if nothing had happened, and that

M. CLEMENCEAU WITH GENERAL WEYGAND.

little had been done to meet the menace to Italy, which had been feared from the very beginning of the year. There had, indeed, been consultations, as a result of which arrangements were made which would considerably shorten the period within which aid could be given to Italy. But there was no "real coordination of the military efforts of the Allies." Mr. Lloyd George declared that unity, "not sham unity, but real unity," was "the only sure pathway to victory." He said:

The Italian disaster may yet save the alliance, for without it I do not believe that even now we should have set up a real Council. National and professional traditions, prestige, and susceptibilities all conspired to render nugatory our best resolutions. There was no one in particular to blame. It was an inherent difficulty in getting so many independent nations, so many independent organizations, to merge all their individual idiosyncrasies and to act together as if they were one people. Now that we have set up this Council our business is to see that the unity which it represents is a fact and not a fraud.

When the Versailles Council was definitely inaugurated at the end of November the chief members present were M. Clemenceau and General Foch for France; Mr. Lloyd George, General Sir William Robertson and General Sir Henry Wilson for Great Britain; Signor Orlando and General Cadorna for Italy; and Mr. House and General Bliss for the United States.

SIGNOR ORLANDO AND BARON SONNINO

Leaving the Council, January 30, 1918. This Council was held at the Villa Romaine.

Looking back upon the subsequent course of events it is difficult to appreciate the obstruction and suspicion which dogged the path of reform. For a moment Mr. Lloyd George's Paris speech threatened even to produce a political crisis in England. The truth, of course, was that many distinguished soldiers

honestly feared for the independence of the British Army, that some less honest spirits played upon their fears, that the small forces of "pacifism" were ready to ally themselves even with the most stalwart "militarism" in an attack upon a Government that was determined to win the war, and that thus the Parliamentary opposition tended to act as a drag upon the wheels of the war chariot. In the House of Commons debate which immediately (November 19) followed the Paris speech Mr. Asquith was careful to remain in what he called "an interrogative mood," and Mr. Lloyd George had little difficulty in dispelling the gathering clouds of "crisis." But at this stage the combined military and political opposition was such that, instead of hastening to make the Versailles Council an effective instrument of war, the British Government had to guard itself on every side against the charge of diminishing the powers of its own military advisers. Thus Mr. Lloyd George could only disarm the opposition by solemnly asserting that the Versailles Council would have no executive power. After reading to the House of Commons (November 14) the agreement already quoted, which had been concluded between the French, Italian, and British Governments, the Prime Minister added:

> From the foregoing it will be clear that the Council will have no executive power, and that the final decisions in matters of strategy, and as to the distribution and movements of the various armies in the field, will rest with the several Governments of the Allies. There will be, therefore, no operations department attached to the Council. The permanent military representatives will derive from the existing Intelligence Departments of the Allies all the information necessary in order to enable them to submit advice to the Supreme Allied Council. The object of the Allies has been to set up a central body charged with the duty of continuously surveying the field of operations as a whole, and by the light of information derived from all fronts and from all Governments and Staffs, of co-ordinating the plans prepared by the different General Staffs, and, if necessary, of making proposals of their own for the better conduct of the war.

[*French Official.*

GENERAL FOCH ARRIVES AT THE COUNCIL.

For some weeks little more was heard of Versailles, save for occasional reminders that the opposition, both military and political, meant to keep the British Government to its pledges. Curiously enough, the next outburst of criticism was based upon the opinion, not that the Versailles Council was assuming excessive strategic powers, but that the Supreme Allied Council was allowing its political aims to be militarized. On January 30 and 31 and February 1 and 2, 1918, the Supreme War Council held its third session at Versailles, and issued the following official statement:

> The Supreme War Council gave the most careful consideration to the recent utterances of the German Chancellor and of the Austro-Hungarian Minister for Foreign Affairs, but was unable to find in them any real

approximation to the moderate conditions laid down by all the Allied Governments. This conviction was only deepened by the impression made by the contrast between the professed idealistic aims with which the Central Powers entered upon the present negotiations at Brest-Litovsk and their now openly disclosed plans of conquest and spoliation.

In the circumstances, the Supreme War Council decided that the only immediate task before them lay in the prosecution, with the utmost vigour and in the closest and most effective cooperation, of the military effort of the Allies until such time as the pressure of that effort shall have brought about in the enemy Governments and peoples a change of temper which would justify the hope of the conclusion of peace on terms which would not involve the abandonment, in face of an aggressive and unrepentant militarism, of all the principles of freedom, justice, and the respect for the law of nations which the Allies are resolved to vindicate.

M. PAINLEVÉ,
French Prime Minister (on the right), with his secretary, leaving the Council.

The decisions taken by the Supreme War Council in pursuance of this conclusion embraced not only the general military policy to be carried out by the Allies in all the principal theatres of war, but more particularly the closer and more effective co-ordination under the Council of all the efforts of the Powers engaged in the struggle against the Central Empires.

The functions of the Council itself were enlarged, and the principles of unity of policy and action initiated at Rapallo in November last received still further concrete and practical development. On all these questions a complete agreement was arrived at after the fullest discussion with regard both to the policy to be pursued and to the measures for its execution.

The Allies are united in heart and will, not by any hidden designs, but by their open resolve to defend civilization against an unscrupulous and brutal attempt at domination. This unanimity, confirmed by an unanimity no less complete both as regards the military policy to be pursued and as regards the measures needed for its execution, will enable them to meet the violence of the enemy's onset with firm and quiet confidence, with the utmost energy, and with the knowledge that neither their strength nor their steadfastness can be shaken.

The splendid soldiers of our free democracies have won their place in history by their immeasurable valour. Their magnificent heroism and the no less noble endurance with which our civilian populations are bearing their daily burden of trial and suffering testify to the strength of those principles of freedom which will crown the military success of the Allies with the glory of a great moral triumph.

There were obvious objections to the apparent confusion of political and military issues in this document—a confusion that was necessarily continued in the consequent discussions. But we are concerned here only with the extension of the functions of the Versailles Council that was thus announced. By this time many rumours were in circulation concerning the position of the Chief of the Imperial Staff, Sir William Robertson, and the Commander-in-Chief in France, Sir Douglas Haig—rumours which had some foundation as regards Sir William Robertson, and none as regards Sir Douglas Haig. When the Versailles Council was set up, said Mr. Asquith in the House of Commons (February 12), the assurance had been given that it would not undertake any executive functions. Now he desired to know whether the enlargement of the Council's functions did or did not include executive functions. Mr. Asquith further argued that the Chief of Staff "cannot serve two masters," and that "the Commander-in-Chief ought to get his orders from the Chief of Staff and the Chief of Staff only." While declaring that he "ruled out as absolutely irrevelant the wretched personal rivalries, intrigues, and squabbles, if such there be, of which we read," Mr. Asquith asked "whether any change has been made, or is contemplated, in the status, the *personnel*, or the functions of the Commander-in-Chief or the Chief of the General Staff?"

Mr. Lloyd George's reply was largely an urgent appeal for the maintenance of secrecy. It was, he said, impossible to tell the House what executive powers had been conferred upon Versailles without at the same time informing

the enemy what it was that Versailles had to do. The main fact was that the situation in the West had become very much more menacing. "Up to this year," said the Prime Minister, "there was no attack which the Germans could bring to bear upon either our Army or the French Army which could not in the main be dealt with by the reserves of each individual Army. The situation has completely been changed by the enormous reinforcement brought from the East to the West; and the Allied representatives at Versailles had to consider the best method of dealing with the situation, which was a completely different situation from any with which they had been previously confronted. They had to deal with a situation where it was necessary, where it was absolutely essential, that the whole strength of the Allied Armies—France, Great Britain, Italy and America—should be made available for the point at which the attack comes. Where will the blow come? Will it come here or there? Who can tell? All you know is that it is prepared. You have got a gigantic railway system, which may swing it here or there. It is essential that arrangements should be made by which the Allies should treat their Armies as one to meet the danger and menace wherever it comes. That was the problem with which we were confronted at Versailles."

The dominating fact was, indeed, that it had become essential for the Allies to be able to treat their Armies as one with a view to preparing to meet the coming German offensive, and, in particular, that it had ceased to be possible to treat their reserves as "the reserves of each individual Army." Put broadly, the reform of the machinery at Versailles consisted at this time in the formation of a committee for the control and distribution of the Allied reserves, and of this committee General Foch was chairman. Throughout all this difficult period the Governments of the Western Powers were immensely aided by the enthusiastic support which was given by the United States Government; President Wilson was the most convinced and determined advocate of strategic unity.

Meanwhile the issues concerning the General Staff and the War Office in England which were involved in the enlargement of the functions of Versailles were rapidly coming to a head. Technically, the problem turned upon the extraordinary powers which had been given to the Chief of the Imperial General Staff, Sir William Robertson, when the concentration of power in the hands of Lord Kitchener as Secretary of State for War had proved unsatisfactory. As Mr. Bonar Law said on February 14, in reply

[*Elliott & Fry.*

GENERAL SIR WM. ROBERTSON, G.C.B., Chief of the Imperial General Staff, 1915-1918.

to a question in the House of Commons, an Order in Council had been issued on January 27, 1916, and reaffirmed on April 20, 1917, which laid it down that "the Chief of the Imperial General Staff shall, in addition to performing such other duties as may from time to time be assigned to him by the Secretary of State, be responsible for issuing the orders of His Majesty's Government in regard to military operations." On February 16, 1918, the Government issued an official statement which said:

> The extension of the functions of the Permanent Military Representative decided on by the Supreme War Council at their last meeting at Versailles has necessitated a limitation of the special powers hitherto exercised by the Chief of the Imperial General Staff by virtue of the Order in Council of January 27, 1916.
>
> In these circumstances the Government thought it right to offer to General Sir William Robertson the choice of becoming British Military Representative on the Supreme War Council at Versailles or of continuing as Chief of the Imperial General Staff under the new conditions.
>
> Sir William Robertson, for reasons which will be explained in a statement which will be made by the Prime Minister in the House of Commons as early as possible during the coming week, did not see his way to accept either position, and the Government have with much regret accepted his resignation.
>
> General Sir Henry Wilson has accepted the position of Chief of the Imperial General Staff.

Sir William Robertson took some exception

M. Pichon M. Clemenceau. Mr. Lloyd George. General Robertson. General Wilson. Field-Marshal Haig.

Baron Sonnino. General Cadorna. Interpreter.

A MEETING OF THE SUPREME WAR COUNCIL AT THE TRIANON PALACE, VERSAILLES, UNDER THE PRESIDENCY OF M. CLEMENCEAU.

to the word "resignation." But, as was to be expected of this great and devoted soldier, he readily accepted the offer of the Eastern Command, and later on, when Lord French was made Lord Lieutenant of Ireland, General Robertson became, at least temporarily, Commander-in-Chief of the Home Forces.

Once more (February 19) the House of Commons—just one month before the great German offensive—engaged in a more or less acrimonious discussion. But it was no longer possible to stay the movement towards strategic unity, and the only feature of the debate which need be put on permanent record is the account given by the Prime Minister of the compromise which had been proposed, and ultimately rejected by Sir William Robertson. In the course of a tribute to Sir William Robertson's great ability and great services, Mr. Lloyd George admitted that his decision might well be wise, since it was better that the new policy should be carried out by those who were thorough believers in it. The arrangement was that the British Military Adviser at Versailles should become a member of the Army Council. He was to be in constant communication with the Chief of the Imperial General Staff, and was to be absolutely free and unfettered in the advice he gave. He was to have the powers necessary to enable him to fulfil the duties imposed upon him by the recent Versailles decision. The Chief of the Imperial General Staff, on the other hand, was to hold office under the same conditions and with the same powers as every Chief of the Imperial General Staff up to the appointment of General Robertson, remaining the supreme military adviser of the British Government. He was to accompany Ministers to the meetings of the Supreme War Council as their adviser and was to have the right to visit France and to consult with any or all of the military representatives of the Supreme War Council.

Once more Mr. Lloyd George insisted upon the gravity of the situation :—

"Trust and confidence among the Allies is the very soul of victory, and I plead for it now, as I have pleaded for it before. We have discussed this plan and rediscussed it with the one desire that our whole strength, our whole concentrated strength, should be mobilized to resist and to break the most terrible foe with which civilization has ever been confronted. I do ask the House to consider this. We are faced with terrible realities. Let us see what the position is. The enemy have rejected, in language which was quoted here the other day from the Kaiser, the most moderate terms ever put forward, terms couched in such moderate language that the whole of civilization accepted them as reasonable. Why has he done it? It is obvious. He is clearly convinced that the Russian collapse puts it within his power to achieve a military victory and to impose

LORD DERBY.
Lord Derby was Secretary of State for War, 1916-1918, afterwards British Ambassador in Paris.

Prussian dominancy by force upon Europe. I do beg this House, when we are confronted with that, to close all controversy and to close our ranks. If this policy, deliberately adopted by the representatives of the great Allied countries in Paris, does not commend itself to the House, turn it down quickly and put in a Government who will go and say they will not accept it. But it must be another Government. But do not let us keep the controversy alive.

"If the House of Commons to-night repudiates the policy for which I am responsible, and on

[French official photograph.

THE TRIANON PALACE, VERSAILLES.
Seat of the Supreme War Council.

which I believe the saving of this country depends, I shall quit office with but one regret, and that is that I have not had greater strength and greater ability to place at the disposal of my native land in the gravest hour of its danger."

Lord Derby, the Secretary of State for War, after a temporary reluctance to part company with Sir William Robertson, accepted the situation, but it may be added here that in April, 1918, he was appointed British Ambassador in Paris, and was succeeded at the War Office by Lord Milner.

Thus far it has been seen how the Versailles Council was gradually developed. But only the shock of battle could overcome the last obstacles in the way. On Thursday, March 21, the German offensive began. In the following week an historic meeting of statesmen and soldiers was held "almost on the battlefield," as *The Times* said; the scene was in reality Doullens. On March 30 Mr. Lloyd George issued the following statement:

"For the first few days after the German Army had launched upon our lines an attack unparalleled in its concentration of troops and guns the situation was extremely critical. Thanks to the indomitable bravery of our troops, who gradually stemmed the enemy advance until reinforcements could arrive and our faithful Ally could enter into the battle, the situation is now improved. The struggle, however, is still only in its opening stages, and no prediction of its future course can yet be made.

"From the first day the War Cabinet has been in constant session and in communication with Headquarters and with the French and American Governments. A number of measures have been taken in concert between the Governments to deal with the emergency.

"The enemy has had the incalculable advantage of fighting as one army.

"To meet this the Allies have, since the battle began, taken a most important decision.

"With the cordial cooperation of the British and French Commanders-in-Chief, General Foch has been charged by the British, French, and American Governments to co-ordinate the action of the Allied Armies on the Western front.

"In addition to the action taken to meet immediate needs of the moment, it will be necessary to bring into operation certain measures which have long been in contemplation should a situation such as the present arrive.

"It is clear that, whatever may happen in this battle, the country must be prepared for

further sacrifices to ensure final victory. I am certain that the nation will shrink from no sacrifice which is required to secure this result, and the necessary plans are being carefully prepared by the Government and will be announced when Parliament meets."

For the moment, then, General Foch acted as head of a special mission of strategic co-ordination. But it was soon found that the position required further definition, and a fortnight later the Allied Governments agreed to confer upon General Foch the title of Commander-in-Chief of the Allied Armies in France. At last essential unity of command had been achieved, without it being necessary to appoint a "generalissimo" in the full sense of the word, and, as soon was proved, without any unseemly invasion of the proper powers of the commanders in the field.

The consequent changes of *personnel* at Versailles need only be noted. General Weygand, Foch's Chief of Staff, accompanied him to his new post, and General Belin, formerly Chief of Staff to Marshal Joffre, became President of the Versailles Council. General Sir Henry Rawlinson, who had been appointed to Versailles when General Sir Henry Wilson became Chief of the Imperial General Staff in London, took command of the British Fifth Army, and was succeeded at Versailles by Major-General the Hon. C. J. Sackville-West. Italy was now represented at Versailles by General di Robilan, and the United States by General Bliss.

The "further sacrifices to ensure final victory" for which Mr. Lloyd George had warned Great Britain that it must be prepared took shape in a new Military Service Bill. In introducing the Bill in the House of Commons on April 9 the Prime Minister explained the decision taken by the Allied Governments. It had, he said, become more obvious than ever before that "the Allied Armies were suffering from the fact that they were fighting as two separate armies, and had to negotiate support with each other." Valuable time was thus lost. And yet the

GENERAL SIR HENRY HUGHES WILSON, K.C.B.,
Appointed Chief of Imperial General Staff, 1918.

French official photograph.

THE MILITARY REPRESENTATIVES OF THE ALLIES AT THE VERSAILLES COUNCIL.

inherent difficulties were tremendous. There were national prejudices, national interests, professional prejudices, traditions. The inherent difficulties of getting two or three separate armies to fight as one were almost insurmountable, and it could only be done if public opinion in all the countries concerned insisted upon it as the one condition of success. But the Prime Minister practically admitted that the Versailles plan had not proved effective.

[French official photograph.

HEADS OF THE MILITARY MISSIONS AT VERSAILLES.

He deprecated discussion of the question to what extent the Versailles decisions had not been carried out. But Versailles was only "an effort at a remedy." Mr. Lloyd George continued with a reference to the decision taken at Doullens and to the position of General Foch which deserves to be recorded here:

A few days after the battle commenced, not merely the Government, but the Commanders in the field—we had not merely the Field-Marshals, but all the Army Commanders present—were so convinced—and the same thing applied to the French, they were so convinced—of the importance of more complete strategic unity, that they agreed to the appointment of General Foch to the supreme direction of the strategy of all the Allied Armies on the Western front. May I just say one word about General Foch? It is not merely that he is one of the most brilliant soldiers in Europe. He is a man who, when we were attacked and were in a similar plight at the first battle of Ypres, rushed the French Army there by every conceivable expedient—omnibuses, cabs, lorries, anything he could lay his hands upon—he crowded French Divisions through, and undoubtedly helped to win that great battle. There is no doubt about the loyalty and comradeship of General Foch. I have no doubt that this arrangement will be carried out not merely in the letter, but in the spirit. It is the most important decision that has been taken in reference to the coming battle. This strategic unity is, I submit to the House, a fundamental condition of victory. It can only be maintained by complete cooperation between the Governments and the generals, and by something more than that—unmistakable public opinion behind it.

Why do I say that? For this reason. A Generalissimo in the ordinary and full sense of the term may be impracticable

There are three functions which a Generalissimo wields—the strategical, the tactical, and the administrative. What does the administrative mean? It means the control of the organization, the appointment and dismissal of officers and generals, and that is a power which it is difficult or almost impossible to give to a general of another country with a national army. Therefore, in spite of all the arrangements made, unless there be not merely good will, but the knowledge that the public in France, Great Britain and America will assist in co-ordination and in supporting the authorities in the supreme strategical plans chosen by the Governments, and in any action they may take to assert their authority, any arrangements made will be futile and mischievous.

I make no apology for dwelling at some length upon this point. I have always felt that we are losing value and efficiency in the Allied Armies through lack of co-ordination and concentration. We have sustained many disasters already through that, and we shall encounter more unless this defect in our machinery is put right. Hitherto I regret that every effort at amendment has led

to rather prolonged and very bitter controversy, and these difficulties, these great inherent difficulties, were themselves accentuated and aggravated. There were difficulties of carrying out plans, and other obstacles, and, what is worse, valuable time is lost. I entreat the nation as a whole to stand united for a united control of the strategical operations of our armies at the front. We know how much depends upon unity of concentration. We are fighting a very powerful foe, who, in so far as he has triumphed, has triumphed mainly because of the superior unity and concentration of his strategic plans.

GENERAL TASKER H. BLISS,
Representing the United States at the Versailles Council.

After all the delays and obstruction in which, as has been briefly indicated, honest doubt was unhappily reinforced by political passion and personal intrigue, the appointment of the French Commander-in-Chief was accepted

GENERAL BELIN,
President of the Versailles Council.

gladly and enthusiastically. It was the natural outcome of events; there was no further room for malice to suggest that "the soldiers" were being overthrown by "the politicians"; and happily, the unity of command, once achieved, was soon to yield splendid fruit. That the British people readily accepted General Foch was not surprising, and the fact was due much more to the eager desire for Allied cooperation and to a deep confidence in France than to the knowledge that General Foch was still, as in the critical days of October and November, 1914, "an avowed champion of the vital principle that the Channel ports and the short communication between Great Britain and France must be held at any cost, in the interest of France as well as ourselves" (*The Times*, April 16, 1918).

Perhaps the best that can be said of the six months' controversy that was thus brought to a successful conclusion is that the delay was ultimately due to the need of securing the considered verdict of public opinion. It was true that any international arrangements would, as Mr. Lloyd George said, be futile and mischievous unless the Allied peoples stood united behind them. Germany could impose her will ruthlessly on her own people and on her allies; Marshal Foch was the nominee

not of the Allied Governments but of the Allied nations, and the united command was the expression of the unity of the free peoples.

Ferdinand Foch, the second of four children and an eldest son, was born on October 2, 1851, at Tarbes in Gascony, a small town which had been the scene of a British victory in 1814.

[*Manuel.*

GENERAL FOCH,
Afterwards Marshal of France.

His father, a member of an old Pyrenean family, was at that time Secretary to the Prefect of the Department of the Hautes Pyrénées. His mother was the daughter of the Chevalier Dupré, an officer of distinction under the Emperor Napoleon I., who was then living at Argelès in the same department, but was by descent a Breton.* As his father moved from one appointment to another, the son changed his place of education, till in 1870 he was sent to Metz to the College of St. Clermont, a well known school kept by the Jesuits. Here he was prepared for entrance to the Polytechnic, the school for officers of the Artillery and Engineers, and also for those who wish to enter the Ponts et Chaussées, that admirable organization to which France owes its marvellously good roads.

* Marshal Foch made his own home in Brittany, near Morlaix. This town conferred its freedom on him. The Town Council in their address described him "as the adopted son of Brittany, by marriage and residence." The motto of Morlaix is "If they bite you bite back."

The rupture with Germany upset all his plans and he promptly entered the Army for the duration of the war, in which, however, he took but little part. In January, 1871, when he was released from service, he returned to Metz to pursue his studies and entered the Polytechnique on November 1, 1871. After a sojourn there of 18 months he passed out forty-seventh on the list and was sent to the Ecole d'Application de l'Artillerie at Fontainebleau in 1873. From this, coming out third on the list, he applied to be sent to Tarbes and once more saw his native place as a young officer of Artillery. Fond of horses and a good rider, he was sent after two years' service to the Cavalry School of Saumur. From this he passed out fourth on the list and was posted in 1878, after promotion to Captain, to the 10th Regiment of Artillery at Rennes. Subsequently he was

THE CATHEDRAL OF TARBES.

appointed to the Section Technique at Paris (somewhat analogous to the British Artillery Committee). When the old system of a close Corps for the Staff, which officers entered when young and served in often till they retired, was abolished, the new Ecole de Guerre was instituted. This was similar to the Staff College of other countries. Officers passed an examination for entrance to it and came out

if successful with the "brevet" or certificate equivalent to our "*p.s.c.*" The plan was also adopted of allowing an officer to obtain his "brevet" by passing the necessary examination, without attending a prolonged course at the College. By these arrangements a supply of officers for the Staff was ensured, who would not only suffice for the administrative needs of the Service, but would also serve as a leaven when doing duty with their regiments, which would tend to raise the general knowledge of the Army, and would at the same time make certain that the future Staff Officers would not lose touch with the troops. Foch went to the Ecole de Guerre in 1885 and, after a course of two years, had a varied experience on the Staff, including three years on the Headquarter Staff, where he received the rank of Major; he was then sent to command the horse artillery group of the 13th Regiment of Artillery. In the autumn of 1895 he was nominated Assistant Professor of Military History, Strategy and Applied Tactics, and five years later he succeeded as Professor and was made a Lieutenant-Colonel. It seems probable that he owed his appointment to his service at Headquarters, where he was employed in the Operations Branch. His chiefs would have noticed his remarkable grasp of strategical subjects, and it is not to be wondered at that after a short tour with troops he was selected for his new post that he might impart his knowledge to others.

He was now free to give vent to the result of his long studies. At the age of 12 he had read Thiers' "History of the Consulate and the Empire," and his whole attention had been given for many years to the construction of a proper scheme of military education intended to produce well-instructed officers, as well taught and as capable as those who came out of the Prussian Kriegs-Akademie. As assistant to the professor he had begun to be noticed; as professor he soon added to his reputation and his lectures were attended with the greatest eagerness by each successive term of officers which came under instruction. He was indeed a first-rate lecturer, without showy tricks to attract the attention of the class, on whom, indeed, they would have been thrown away. They came to his lecture-room to listen to his teaching and his views, of which most of them had already heard something, and they were not disappointed. He spoke without gesture, but with conviction in a grave but somewhat rough voice, perhaps a little monotonous, taking care to express completely and logically his ideas, even at the expense of some redundancy of expression,

METZ: PLACE ST. LOUIS. IN THE HEART OF THE OLD FRENCH TOWN.

SAUMUR.

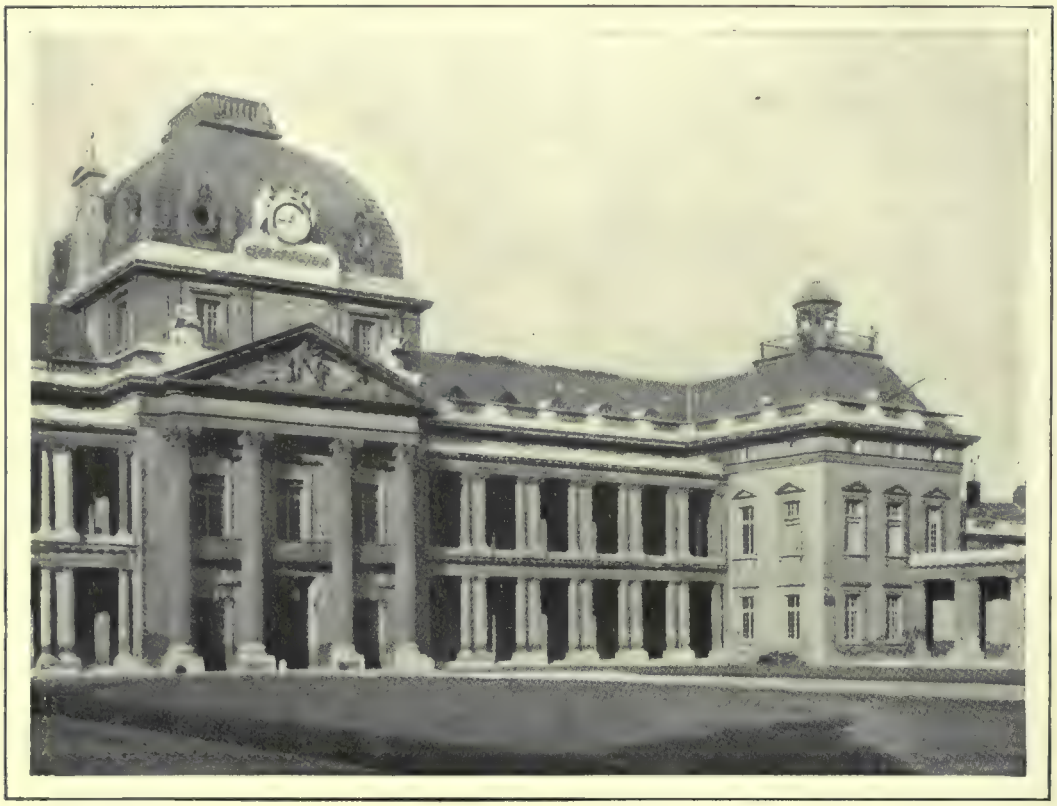
Foch attended the Cavalry School in this town.

but always with the intention of being mathematically exact. Sometimes he was a little difficult to follow, so full of ideas were his discourses, yet he was always able to retain attention by the acuteness of his views, which he put forward in his own impressive way. His pupils regarded him as the most original among the professoriat, which numbered at the time many distinguished and brilliant individuals.

There can be no doubt that his views impressed not only those to whom they were expressed in class but also a far wider circle in the French Army. During the six years he held the position of professor he must have had nigh on 700 officers pass through his hands, who, on leaving the Staff College, had assimilated his doctrines and served as centres of propagation in all parts of the Army.

On what did Foch base his theories? On the practice of war, and he chose for this purpose in the first place the greatest master of all time—Napoleon. Now many will say that to found methods of handling troops on what happened a hundred and more years ago when the whole conditions of war were different would be foolish. That is because those who talk in this way have never really studied war and because they do not appreciate the vital and unchanging principles which guide it; they always remain the same though the methods of applying them are affected by the ever-changing conditions of life. As Foch himself says "No invention, no new machine, no increase in the number of your effectives, can change the inexorable laws of war." But if the colour is always the same, the component parts of the necessary shade vary with the age which employs different preparations to arrive at it.

Fire-arms can be roughly divided into two classes, those manipulated by the individual, those which require more than one man for their efficient working. It is obvious, however, that the effects obtained from the modern quick-firing long-range rifles are immeasurably in advance of the musket, as that was superior to the handgonne. The latest forms of machine-gun are essentially weapons for the individual soldier, and mark probably the limit of excellence in the individual weapon. Much the same is true with regard to artillery. The enormous superiority of modern guns over those ever before employed must be patent to the most casual observer Yet in the essentials of their effects, modern weapons



THE ECOLE SUPERIEURE DE GUERRE, PARIS.

only differ from those employed before by their superior man-killing or material-destroying effects—*i.e.*, other things being equal, they obtain the effect desired in a shorter time.

Action and reaction are equal and opposite. The increase in power of weapons has called forth measures to protect men from them. The infantry has gone to ground, the soldier covers his head with the iron-pot of former days. Reconnaissance in the old sense is impossible, but science has taken our reconnoitrers up into the air, and bombing and machine-gun fire from aeroplanes both play a part in enemy combat. But all these changes are merely intensifications of old methods and involve no change in the main eternal principles which guide them.

Put briefly these are :

1. The protection of your own communications, the attack of the enemy's.

2. Concentration of superior force against the point to be attacked.

War has been defined as an "affair of communications." That is as true to-day as it was in the days of Philip of Macedon. But modern systems of communication are different. Napoleon in 1812 was beaten because his communications, entirely worked by horse-carriage, were not capable of accomplishing the task imposed upon them. He could not feed his Army because he could not bring food to it. Modern armies are entirely dependent on their communications for their sustenance. They are so huge that the country in their immediate neighbourhood cannot supply them with any appreciable amount of the foodstuffs they require. The same reasoning applies to ammunition supply. The amount now fired by artillery, machine-guns and rifles is so enormous that without railways and the auxiliary automobile wagon, an Army would find itself reduced in a few days to bayonets, sabres and fists. The necessity for accumulating the immense amount consumed is one of the reasons for the slowness of modern military operations. Supply finds it difficult to keep pace with consumption.

These are examples of the way in which primeval rules have been modified, but not abrogated. Very many of the operations of war still pivot round the attack and defence of communications.

The other and equally important principle is the concentration of superior numbers when striking a tactical blow. Here again Napoleon's wars taught a lesson for all time.

His great successes were obtained by means of it, and nothing is more impressive in his campaigns than the fact that often, when himself inferior on the whole in numbers, yet when he came to battle he contrived to be superior at the point of impact. From 1796, when it was comparatively easy, up to 1814, when it was infinitely more difficult, time after time he did it. This principle holds equally good at the present time. For it is not merely necessary to defeat the enemy; to complete success he must be reduced to impotence. Plainly, therefore, complete concentration of *all* available force must be made at the decisive point.

Clausewitz, the greatest of Prussian military writers, has elaborated and enforced these two main guiding principles of war with his usual wealth of words. It would be a charity to military students to rewrite his strategical works in one-third of the space they now occupy, leaving out his pleonastic pomposities. But few Germans are content with one clear word if they can use six to make their meaning obscure.

What Foch said in his lectures he has embodied in two books. The one is entitled "The Principles of War" (*Des Principes de la Guerre*); the other, "The Conduct of War. Movements Preliminary to Battle" (*De la conduite de la guerre, La manœuvre pour la bataille*). They were both founded on the lectures which he gave at the French Staff College between 1900 and the next year when he left his appointment. It is not meant by this that they had not been conceived in the main before this date, but 1900 found his ideas worked into complete form, and they were published, the first in May, 1901, the second in 1904.

"Knowledge of the art of war will not make a man a Napoleon, but will teach him what his soldiers can do. It points out the modes to be copied, the striking deeds which have been realized, and thus smooths the path for those who are gifted by Nature with military capacity." Thus spoke Dragomiroff, the well-known Russian general and military writer, and Foch supports his views. "The principles can be taught; their proper application depends on the capacity of the individual carrying them out." He points out the necessity for constant reflection on questions of war. "No one is born into the world educated, nor with his muscles fully developed."

THE PROBLEM OF TRANSPORT: A ROAD IN FRANCE IN 1918.

Exercise is needed to develop both. There is no royal road to military knowledge any more than there is to any other form of knowledge. "To acquire it continual effort is needed. Do not the most simple arts require this?" "Who would pretend to teach in a few seconds, or even in a few lessons, fencing, or horsemanship?" Addressing his class, he said: "You will be called on later to be the brain of the army; to-day I say to you, learn how to think." As each problem arises, "put to yourself the question, what is it concerned with—what's up?" Napoleon himself said: "No genie comes to me secretly to reveal what I should say or do in unexpected circumstances, my decisions are come to as the result of reflection." It was the outcome of previous training and thought which had equipped his mind and enabled him to decide what to do when each occasion presented itself. The object of instruction such as is given in every well-organized Staff College, is, as General Bonnal points out, to develop this habit "which enables even mediocre minds to understand military problems, infuses into the veins of an army the principles derived from experience, and guarantees a community of thought from which will arise when required individual initiative and rational dispositions." It was this system which produced the Prussian General Staff, composed for the most part of men of ordinary minds but thoroughly trained, and which enabled it to gain the successes of 1866 and 1870.

It was the want of sufficient numbers of such a class, capable of wise reflections and decisions, which brought about even with Napoleon the disasters of 1812 and 1813. Says Marshal Foch, "He failed despite his ability because the body military had only a head; it wanted muscles, joints and arms to animate so vast a whole." It has been well said that when the Emperor could keep the entire conduct of the war in his own hands he was successful, when he had to trust to subordinates they failed. In 1796–97, in 1800 in Italy, in 1805 in Austria, in 1806-7 in Prussia, and in 1809 against Austria, he won because all the forces were under his own immediate impulse.* In Spain, when he conducted the war himself, he was successful, when he left it to his marshals they failed, and the same was true in 1812 in Russia and in 1813 in Germany. Wellington only obtained the command of the Spanish forces in the Peninsula in 1813, and for the first time was able to direct the whole of the allied armies operating in Spain. The results of this commonsense arrangement are well known.

To-day, with armies which are formed of the whole manhood of nations in arms, it is impos-

[*From the painting by Meissonier.*

"1814."

* In 1809, when the opening manœuvres of the campaign were left to Berthier, he muddled badly, and it took all Napoleon's genius to straighten out the situation.

[From the painting by Meissonier.

FRIEDLAND, 1807.

sible for the Commander-in-Chief to keep everything in his own hands, although he may still be, as it were, the Director-General of Operations. The greatest genius must have well-trained assistants. When these exist it will still be possible to conduct war on rational lines with such a staff of officers "educated to the required pitch by methodical work and scientific instruction, imbued with the same spirit, animated by the same intellectual discipline, and in numbers sufficient for the working of the complicated machinery of a modern army."

Foch's aim, then, was to arrange a proper method of instruction for future Staff Officers which would lead them to understand what modern war really was, and train them to solve its many problems. For this purpose it was necessary to base the system of education on the true Theory of War derived from wars between entire nations such as were first seen in the days of Napoleon, and which alone represent modern conditions. The French were the first to introduce national service, and it enabled them to overrun Europe. Then other countries followed the example, and in 1813–14–15 entire nations took the field. The days of small enlisted armies are gone and have disappeared for ever. When war breaks out between two nations the whole force that each can produce steps into the arena.

It would be impossible in the space available to do more than give an outline of Foch's views, but it is possible to put the reader *au courant* with his main lines of thought. There is nothing startling in them; he expressly states that the lessons he inculcates are founded on the study of the campaigns of Napoleon. Napoleon himself said: "The principles of war are those in accordance with which great commanders have acted whose great deeds are recorded in history," and he believed that the rules for the conduct of war could be found by the study of the records of great commanders. "It is therefore not astonishing that we—*i.e.*, the French—should seek them in the history of the wars of Napoleon."

Foch naturally differs from those who look upon military operations as a species of chess, and points out that "theories which seek to be exact by being mathematically based on certain given data, have the misfortune of being radically at fault because they leave out of consideration the most important factor of the problem, about which there is no certainty whether in conception or execution, the living fact, *man*, with his feelings, moral, intellectual and physical; while trying to construct an exact science, they forget that war, 'far from being an exact science, is a terrible and passionate drama.'"* As Foch points out,

* Jomini made use of this phrase, but failed to give adequate consideration to the psychological side of war. Clausewitz copies the phrase with a slight variation, calling it a "bloody and passionate drama." Napoleon summed up the whole matter in one terse phrase: "In war the mental is to the physical as three to one."

to forget this would be as absurd as "if you attempted to teach riding by instructing the man as to the various parts of a horse by means of a lay figure. Who is there who would ever think of teaching equitation after this fashion without taking into consideration the life, the breeding, the temperament of the animal, or without mounting it?" Theories which provide for everything in war must fail, because no situation is ever exactly reproduced, because there must arise situations which meticulous theory cannot foresee, because every theory which endeavours to lay down hard and fast rules for the conduct of man must fail when a situation arises which differs from all the situations which have been taught. War is not a science, it is only an art based on a few simple rules, the application of which must vary to meet the requirements of actuality.

Austria carried out these false views to the highest possible point at the time of the French Revolution, out-Fredericking Frederick, not the Frederick of the Silesian Wars, but the Frederick of his old age when he degenerated into a mere barrack-square pedant. Napoleon blew all this rubbish to bits in 1805 and 1806, finishing the work which the wars of the Republic had commenced. On his methods, because in their essentials they are eternally true, Foch therefore bases his teaching. He also points out the falseness of the phrase that war can only be learned in war, for that would leave us without guidance in the first operations. A nation which went to war imbued with such notions would be inevitably beaten when dealing with an adversary who knew his business better. This was clearly shown in the case of Frederick the Great. The Battle of Mollwitz, his *baptême de feu*, in which he was handsomely beaten by the Austrians, showed him the necessity for study, for developing the theories which he subsequently put in practice. But it is only absolute monarchs who can teach themselves the art of war by practising it when ignorant on the battlefield. Generals who indulge in this game are usually at once removed from their employment.

The great charm of Foch's teaching is the clear exposition of well-considered and well-tried methods. "The truth is that on the battlefield no one studies, one simply applies what one knows. It follows that to be able to *do* even a little one must *know* much and that thoroughly. Thus is to be explained the weakness of the Austrians in 1866, who ought to have learned much from the war of 1859, but had learned nothing. On the other hand, the Prussian, who had not fought since 1815, understood it, but did not know how to carry it out." This is clearly shown in the records of the battles of the Prusso-Austrian wars which teem with examples of barrack-square tactics as opposed to the proper tactics of the battlefield. The Prussian Captain May's two pamphlets, "A Tactical Retrospect" and "The Prussian Infantry in the War of 1866," show clearly the faults committed. But knowledge can only be based on study of facts, and in peace the only facts which can be studied are to be found in the records of military history. The well-known German General von Peucker remarked that "The less an army has had of actual experience in war, the more is it necessary to have recourse to military history for instruction. . . . In peace time it is the true method of studying war, deducing from it the fixed principles of the art of war."

What form will this teaching born of historical studies, to be developed by further historical studies, take? "A *theory* of war which can be taught, and in the shape of a *doctrine*, which you will be taught to apply. By this is meant the *conception* and the *putting in practice*, not of a *science* of war nor of a rigid dogma outside of which there is nothing but heresy, but a certain number of indisputable *principles* which when once established are of *variable application* according to circumstances."

Foch's main argument with regard to the conduct of war is thus expressed: "War as I shall study it is positive in its nature and admits only positive and complete solutions. No result can be obtained without force; if therefore you wish for the desired result, develop force to the highest point possible and apply it. If you wish to make the enemy fall back, beat him; and to do this there is only one way, *battle*.

No victory is possible without battle. As Clausewitz said: "Victory can only be bought by blood; if unwilling to pay the price do not make war. So-called humanitarian reasons put forward against this argument if admitted will only lead to your being beaten by a less sentimental adversary." It is wrong, as von der Goltz points out, "to regard the object of war as the execution of finely calculated

General Pétain, Commander-in-Chief of the French Armies; Field-Marshal Sir D. Haig, Commander-in-Chief of the British Armies in France; Marshal Foch, Commander-in-Chief of the Allied Armies; General Pershing, Commander-in-Chief of the American Forces in France.

AN HISTORIC GROUP OF COMMANDERS-IN-CHIEF AT MARSHAL FOCH'S HEADQUARTERS.

manœuvres when it should be the annihilation of the adversary." The Austrian generals opposed to Napoleon in 1796 said: "Is it impossible for us to disregard even the most elementary principles of the Art of War as this Bonaparte does?" One of them subsequently remarked that "he plainly knows nothing of war; he does not go into winter quarters." But he did reach the environs of Vienna in 1797.

Modern war only recognizes one argument—the tactical argument of battle. For this purpose it demands all the forces possible and requires strategy to provide them. In the battle it makes use of all these for the shock of collision. This is the one and only idea

[*Lafayette.*

GENERAL SIR H. H. WILSON,
Chief of Imperial General Staff.

for the conduct of battle—fight with the greatest number possible.

Holding these views, it is not surprising to find that Foch is an uncompromising advocate of the offensive in war. Modern war only recognizes one object, the destruction of the enemy's army—*battle*, the overthrow by *force*. It was the mainspring of Napoleon's method.

[*Benjamin*

GENERAL WEYGAND,
A Studio Portrait of Foch's Chief of the Staff.

When invading Saxony in 1806 he wrote to Soult: "There is nothing I desire more than a great battle." He had it on October 14, and at Jena and Auerstedt the might of Prussia was humbled in the dust. Clausewitz followed out the same idea: "Napoleon always went for his objective without bothering about the enemy's strategic plan, knowing well that all depends on tactical results and never doubting that he would gain them, everywhere and on all occasions he sought for battle." Moltke pointed out that the first objective of every commander should be the enemy's main force. When on August 17 he drove over the battlefield of Mars-la-Tour, which he knew full well had been only won by the tenacity of the 3rd and 10th Army Corps against superior numbers, he remarked, "This proves to me that one can never be too strong for the day of battle."

Foch sums up his views thus: "Seek out the enemy's armies, the centres of the hostile Power, beat and destroy them. For this purpose choose the shortest road and the surest tactical methods. This is the very essence of modern war. The decision of battle is the only criterion of value; it alone results in a conqueror and a conquered. The former becomes master of the situation, the latter must submit himself to the will of his adversary. Hence no mere strategical movements avail against tactical results.

Victory is won only by battle." Many are the examples to be found in military history in which seemingly favourable strategical situations have been knocked to pieces by the opponent winning the tactical results of collision. Hence, there is only one way of dealing with the enemy; it is to *beat* and *overthrow* him.

Shock is needed, and this is composed of two factors, mass and movement. The tactics of the battlefield must be tactics of movement. It follows that whether on the offensive or defensive the order of fighting must be one of movement—*i.e.*, of attack—and indeed this must also be the law for strategy. For as the blow administered must be as heavy as possible, the basic condition, the postulate of every strategical act, must be to concentrate *all the troops possible*. This also implies movement. Movement, therefore, is a *conditio sine quâ non* of strategy as well as tactics. Napoleon's dictum, *Activité, activité, activité, vitesse*, applies in all operations of war.

Foch's views as here extended and explained are taken chiefly from his work, "Des Principes de la Guerre." His second book, "De la Conduite de la Guerre: La Manœuvre pour la Bataille" is equally emphatic in its teaching. It is based on a study of the Franco-German war of 1870–1, up to and including the Battle of Gravelotte, and enforces once more the lessons taught in the "Principes." "Modern war recognizes only one argument—force. Only after beating down the adversary in battle and finishing him by pursuit, is it possible to discuss matters with him. Strategy therefore must be directed to one end only, to provide the most favourable conditions for battle. This battle gained, a new phase is begun, the end of which is another battle. Thus every campaign consists of a series of strategical combinations, each of which is completed by a great battle." The main principles of strategy must always be adhered to. As Napoleon said: "Strategy is an art based on certain rules, which no one forgets. All the great generals of antiquity and all those who have followed worthily in their footsteps only achieved great things because they had assimilated the natural rules and principles of the art of war. . . .

Lord Derby. Marshal Foch. Field Marshal Haig. General Mordacq. Mons. Clemenceau.

A GROUP AT A PARIS RAILWAY STATION.

[After the bust by Auguste Maillard.

FOCH.

They succeeded because of this assimilation, however bold their enterprises or the widespread nature of their successes."

But Foch, like Clausewitz, and indeed like all the great writers on modern war, fully understood how great a part the mental portion of man plays in the life and death struggles of a campaign, and it is for this reason that the former again and again emphasizes the necessity for bearing this in mind. Napoleon said: "In war the man is everything, the men are nothing." Now he did not mean by this that the men were to be regarded as automata, which was the method of Frederick, and is largely the modern German method. What he meant was that the influence of *the man* is to be seen in all parts of war—the influence of the Commander-in-Chief whose management of war inspires confidence among his subordinate leaders and is thus extended to the whole Army. How often did the cry of "Vive l'Empereur," heard on the battlefield

presage the commencement of a decisive manœuvre. The commander of an army can, if he be wise, inspire confidence in his subordinate leaders and so on down to the battalion leaders, the platoon leaders, and even those who by their example fire the spirits of small groups. This moral influence, so intangible, so impossible to define, is the most important, the most effect-winning factor of war.

Foch founded no new school of war; rather did he breathe new life into the dry bones of what had once been the great school of Napoleon—misunderstood and rendered useless by neglect and oblivion. He is a great example of the educated soldier. Foch appreciated the lessons taught by the early Revolutionary Wars and by the muddles of the huge inchoate masses of the American War of 1862-65. In both cases the indeterminate results so often seen were entirely due to the fact that the subordinate leaders knew no more about war than the men they were supposed to lead and were therefore totally incapable of inspiring confidence in them. The world in general does not understand that Frederick, Napoleon, Wellington, Moltke, Lee and Foch were all men who had studied their professions. Frederick was not merely King, but also a military student; his writings are known to all. Napoleon owed his appointment to the Army of Italy to the plan he suggested for carrying on the war against the Austrians and Sardinians. Wellington earned his command in Spain largely by the suggestions which he submitted to the British Government and to the ability he had displayed in India. His memorandum on the probable outcome of Napoleon's campaign of 1812 is a masterpiece; his dispatches are full of wise military observations. He told Sir John Shaw Kennedy that all his life he had studied war. Of Moltke naught need be said; he is well known to have been a hard and continuous student, as his writings show. Lee was a man who had been an instructor and writer. All five men were not only great Generals; they were great writers on war. Foch wrote as well as any of his predecessors and he showed in deeds that he was not a mere man of words.

It may here be pointed out that Foch lays the greatest stress on discipline, without which an army is useless because incapable of combined effort. It is discipline which enables the efforts of the individuals to be joined together for the common purpose, which enables the Commander-in-Chief to combine the many units into one coherent whole for his object, the defeat and destruction of the enemy. Intelligent discipline raises the spirit of the Army and produces confidence and mutual reliance. It naturally follows that Foch lays great stress on the psychic side of war, those indefinite and yet plainly evident factors which affect the emotions, which differentiate great from mediocre leaders whether at the head of armies or merely subordinate leaders. These feelings may be present, but dormant in any army; the great leader calls them out. Plainly he holds, like Napoleon, that they furnish the greater part of success in war.

Let us now see how Foch applied his theories We left him at the Ecole Supérieure de Guerre. In 1901 he was posted to the 29th Regiment of Artillery, and two years later was made a full colonel and transferred to the 35th Regiment of Artillery at Vannes. After a stay of two years in this post he found himself back on the Staff as Chief Staff Officer of the 5th Army Corps at Orleans. In 1907 he became a Major-General, and received the command of the artillery of the same army corps. After a stay of a few months there he was nominated by Monsieur Georges Clémenceau, President of the Council, to the post for which he was so well fitted, the command of the Ecole de Guerre. An amusing anecdote is told of the interview between these two men:

"I offer you the command of the Ecole de Guerre."

"Thank you, Monsieur le President, but you are doubtless unaware that I have a brother who is a Jesuit?"

Clémenceau replied, "I know it, but I don't care a hang. You will make good officers, that's all that's wanted."

In 1911, being promoted to be Lieut.-General, he was sent to command the 13th Division at Chaumont. In December, 1912, he received the command of the 8th Army Corps at Bourges, and in August of the next year he was transferred to the 20th Army Corps at Nancy, an important command, as it was one of the frontier army corps, and here he was when war broke out. His corps formed part of the Second Army under General Castelnau, who, as soon as war was certain, ordered the defences of the Grand Couronné to be completed to give some protection to the otherwise open town of Nancy. Foch, in accordance with his view that no defence should be passive,

pushed on his troops towards the frontier to Château-Salins, and his corps was deployed by the evening of August 19, 1914, north and east of the forest there, forming a defensive flank to cover the French operating to the south. He successfully attacked the Germans on the 20th, but was afterwards obliged to retreat, in conformity with the other troops of Castelnau's Army, to the Meurthe. The German plan of campaign had comprised a double turning of the French flanks; their right advancing through Belgium was to strike the left flank of the French, destroying, of course, the "contemptible" British Army in the process; their left was to turn the French right, drive it back, and get behind the forces holding the line from Verdun to the west. But when Castelnau with the Second and Dubail with the First Army retired under pressure of the Germans, the latter pushed on hastily to carry out this plan towards Lunéville, marching by the works of the Grand Couronné. So doing, they exposed their flank to a counter-attack. The two armies had lost touch of one another, and the First had been severely handled, but by the 22nd they were in contact again, and Castelnau developed his plan. The objective of the Germans was the Gap of Charmes, which led back in the direction in which they wished to go, and the capture of which would have greatly facilitated their advance behind the French line westwards. Dubail with the First Army held the Germans in front, while Castelnau with the Second Army struck them in flank. It was a very congenial task to Foch.

On August 24, 1914, advancing with the greater part of the 20th Corps (leaving only a sufficient garrison in the works of the Grand Couronné) he attacked the Germans and held them. The next day he ordered a general advance of his corps. The Germans, after some resistance, were driven back with loss. It was a severe defeat for the Germans, and brought up with a round turn their offensive in the East. It ended all possibility of carrying out their original plan of campaign. That the defeat was felt to be a heavy one is proved by a German wireless message of August 27. "Do not under any circumstances let the Armies of the West know the check to our armies of the East."* Joffre issued a General Order

[*Official photograph.*

KING GEORGE IN PARIS WITH GENERALS FOCH, HAIG, PÉTAIN AND ROBERTSON.

* Hanotaux, *Histoire Illustré de la Guerre de* 1914, Vol. V., p. 42.

thanking the two armies for their successful operations on August 27, and the next day further instructions for them to continue to hold the German armies. This was of the utmost importance. The Allied Armies in the West had been pressed back, and Joffre was waiting for the proper moment to turn on the enemy. It was therefore necessary to stop

[*Manuel.*

GENERAL MAUNOURY.

Commanded the 6th French Army defending Paris, September 1914.

his further advance in Lorraine to turn the right of the French line. But when the situation on the East became satisfactory, Joffre determined to call Foch to a higher *rôle* than he had yet undertaken. The Ninth Army which Joffre was forming for him, was composed as follows: the 9th, which included the Moroccan Division, and 11th Corps from the Fourth Army, the 42nd Division from the 6th Corps, the 52nd and 60th Reserve Divisions, and the 9th Cavalry Division. The newly instituted force represented about 100,000 men.

The British and French Armies facing the centre and right of the Germans had been forced back. But although compelled to retreat General Joffre had always kept before him the intention to turn on the enemy as soon as circumstances allowed.

On September 4 cavalry reconnaissances and the reports of the airmen of the Allies showed that the German right formed by Kluck's Army was moving towards the south-east, having given up the direct advance on Paris. The moment had come to resume the offensive.

The positions of the Allied forces under Joffre were as follows: On the extreme left was Maunoury with the Sixth Army between Paris and Meaux. Next came the British under Field Marshal French south of Coulommiers. Then the Fifth Army under Franchet d'Esperey south of Montmirail. The Ninth Army came next, holding from Cezanne to Sommesous. After this was the Fourth Army, commanded by Langle de Cary, from Sommesous to the east of Vitry-le-François, from which point the Third Army under Sarrail prolonged the line to Verdun. The flank of this force was protected from Verdun to the Vosges by the Third, Second and First Armies and by a detachment in Upper Alsace.

The order was given by Joffre for the counter-attack to commence on the 6th. The Sixth Army and the parts of the 1st French Cavalry

GENERAL FRANCHET D'ESPEREY.

Commanded the 5th French Army defending Paris, September 1914.

In the photograph he is seen decorating the famous airman Guynemer.

Corps available were placed at General Maunoury's disposition, and he was ordered to wheel round on his right and move on the Ourcq in the general direction of Château-Thierry to attack the flank of the 1st German Army there moving in a south-easterly direction. The British were also to convert to the right to fill the gap between the Sixth and the Fifth Armies and then to advance and join

in the general offensive movement in the direction of Montmirai. The 2nd Cavalry Corps was to keep up connexion between the British and the Fifth Army. The latter was to close slightly on its left and was to be in readiness to attack from south to north. Foch was to cover the right of the Fifth Army. The Fourth Army was to attack the front and flanks of the 1st and 2nd German Armies, while the Third Army, guarding itself against attack from the north-east, was to move westward to attack the left flank of the enemy's forces which were marching towards the west of the Argonne. These two armies were to act in combination. They formed the right of General Joffre's force, the centre of which was constituted by the Ninth Army, the left being the Fifth Army, the British and the Sixth Army.

The situation was such that the Ninth Army received a good deal of the enemy's attention. Foch had distributed his troops as follows. The 42nd Division on the left was in touch with the Fifth Army. The Moroccan Division was on its right, then came the 9th Corps about

MARSHAL FOCH WITH GENERAL WEYGAND, HIS CHIEF OF THE STAFF.

Fère-Champenoise with advanced posts towards Morain-le-Petit and the north of the marsh of Saint Gond. The 11th Corps held the line to Sommesous. The 9th Cavalry Division kept touch with the left of the Fourth Army. The instructions issued to Foch were to cover the right of the Fifth Army by holding the southern debouches of the marsh of St. Gond and detaching a part of his force to the plateau north of Cezanne.

To carry out the instructions received Foch made the following dispositions. The 42nd Division was placed across the road from Epernay to Cezanne on the line Mondement-Saint Prix-Villeneuve-les-Charleville, the Moroccan Division being on the right of this line, and in touch with the Fifth Army. To the right again was the 9th Corps holding the ground about Fère-Champenoise, with its outposts towards Morain-le-Petit and north of the marsh of St. Gond. The 11th Corps about Sommesous held the road from Châlons-sur-Marne to Arcis-sur-Aube, and on its right the 9th Cavalry Division connected up the Ninth Army with the Fourth. The 52nd and 60th Reserve Divisions were in reserve.

The fighting began on September 6, and the 9th Corps had to withdraw its advanced posts to the south of the St. Gond marsh, where it still held the debouches. The 11th Corps had also to fall back. Foch's orders for the next day were for the 42nd and Moroccan Divisions to advance conforming their movement to that of the 10th Corps, the right of the Fifth Army. The 9th Corps was to hold the southern edge of the roads coming through the marsh of St. Gond. The 11th Corps was to hold on to the line of woods south of Ecury-le-Repos and Normée, endeavouring if possible to advance in the direction of Clamanges and Colligny. One of the Reserve Divisions was brought up to strengthen its right. The 9th Cavalry Division was still to keep touch with the Fourth Army. On the 7th the Ninth Army was attacked with great violence. The Germans plainly desired to penetrate the French line on Foch's right and assailed the 11th Corps with very heavy artillery fire and severe infantry assaults. It was compelled to fall back to the line of the river Maurlene, as also was the Reserve Division on its right. But the latter made a counter-attack and thus enabled the 11th Corps to come somewhat more forward again. The left of the Army (42nd and Moroccan Divisions) was also attacked, but beat back the Germans and in turn pushed them back to the north of the St. Gond marshes.

Foch at once appreciated the position and took steps to meet it. He determined to bring the 42nd Division from the left to the right of his line which was the more hardly pressed, and asked Franchet d'Esperey to fill up the gap thus made by extending the right of the 10th Corps, the right wing division of the Fifth Army, to fill the gap.

[*French official photograph.*

FOCH IN HIS STUDY.

On the 9th the German attacks were renewed in all their force. The Moroccan Division was severely pressed, but the timely succour of the 42nd Division marching behind it to the right, which sent up some of its artillery, saved it. The 11th Corps, however, attacked in greatly superior numbers, was obliged to fall back, thus exposing the right of the 9th Corps, which also yielded ground. The Germans pressed forward to penetrate through the gap; but the opportune arrival of the 42nd Division stopped the German advance and won the day. For the new arrivals took the German columns in flank, and what was even more important, surprised the German command which had not expected the appearance of fresh troops and did not know whether these portended an attack in force. As Foch has himself said, "A battle is won when one refuses to acknowledge

one is beaten," and, "the best method of defence is to attack." The next day the whole Ninth Army advanced.

As Field-Marshal French said in his dispatch, the battle, as regards the Sixth French, the British Army, the Fifth and Ninth French Armies, may be said to have concluded on the evening of September 10, when the enemy had been driven back to the line Soissons-Reims, with a loss of thousands of prisoners, many guns and enormous masses of transport. The German 1st and 2nd Armies were in full retreat, their whole force was driven back to the Aisne. For this great success, so far as the right of the Allied Armies in question is concerned, the result was largely due to the brilliant manœuvre of General Foch.

The war was now about to assume another phase. The first efforts of the Germans had failed both on their right and left. They ceased to make any effort from Lorraine, but they did not give up their efforts to turn the right of the Allied Armies. They were desirous of cutting the British communications as well as of crushing our "contemptible" little Army. They wished to get round the Allied flank to cut a way to Calais Joffre had been perfectly aware of the enemy's intention, and also felt himself quite capable of stopping it.

Maunoury's Army, the Sixth, was, as has been seen, on the left, and was ordered to the right bank of the Oise on September 11, and four days later another Army Corps was given to him. Castelnau, no longer needed in Lorraine, where the German advance had been definitely stopped, was brought to the Western front, given three divisions and sent to prolong Maunoury's front to the north. There had now begun that race for the sea which only terminated when both sides rested their flanks on it. Castelnau's extension was met by the German 6th Army, which could not pass it. When the German cavalry under von Marwitz tried to push through between Arras and Bapaume the French cavalry barred its way.

Foch had already played an important strategical part on two occasions, his flank attack at the battle for Gap of Charmes, and with the Ninth Army in the centre of the French Army at the battle of the Marne. He was to play a still more important part on the left of the Allied line. On October 4, 1914, Joffre telegraphed to him that he was to act as his deputy and to take over the command of the group formed by Castelnau's and

[French official photograph.

M. Ribot. General Foch. M. Painlevé.
CELEBRATING THE VICTORY OF THE MARNE.

[Official photograph.

GENERAL FOCH DECORATING BELGIANS IN THE PRESENCE OF THE BELGIAN KING.

Maud'huy's Armies.* This was the guard of the extreme left flank. The situation on this part of the line was a complicated one. The Belgian Army was known to be in a perilous position; part was on the frontier, but a considerable part was also at Antwerp. On the 9th this town was abandoned to its inevitable fate, and the Belgian garrison, strengthened by the British 7th Corps, the 3rd British Cavalry Division and a brigade of French Fusiliers Marin, commenced to fall back to the Yser and the coast.

Early in October, 1914, Sir John French had felt the necessity for bringing the greatest possible force to bear in support of the northern flank of the Allies in order to outflank the enemy effectively. As the position on the Aisne was then fairly secure he thought the British Army might be more effectually used and desired to move it towards the northern end of the Allied line, where also it would be easier to supply it from England. He discussed the situation with General Joffre, who fell in with his views, and the operation was commenced on October 3 and completed on October 19. The British were now on the left of the French, who supported them directly by the 87th Territorial Division in Ypres and Vlamertinghe and by the 89th Territorial Division at Poperinghe. French ordered the 7th Division back to a position to the East of Ypres with the 3rd Cavalry Division on its left. When the British advanced it was to form on the right to conform to the movements of the 1st Corps, then (October 19) in front of Ypres, and ordered to move on Bruges. The extreme left was formed by the three French Cavalry divisions. The 2nd and 3rd of these were with the British Cavalry Corps to take up a defensive attitude. The Belgians were fortifying themselves on the Yser. General Haig had visited General Foch at his Headquarters at Doullens and arranged joint plans with him.

But the Germans grew in numbers, and on the 21st, after a consultation with the 1st and 4th Corps commanders, French came to the conclusion that the original programme could not be carried out. He had also discussed the matter with General Joffre who promised to bring up the 9th French Corps and other troops, but would not be able to do this till the 24th when he would advance in conjunction with the Belgians and drive the Germans back to the east.

On the evening of the 23rd one division of the French 9th Corps came up and took over part of the line held by the 2nd Division (1st British Corps). There now ensued several days' hard fighting, of which perhaps the 31st was the most serious. The Germans in overwhelming

* Maud'huy had been given an army composed of the Territorial divisions under General Brugère, and the two Cavalry Corps of Mitry and Conneau.

[French official photograph.

M. Clemenceau. M. Poincaré. Marshal Foch.

GENERAL FOCH RECEIVES HIS BATON AS MARSHAL OF FRANCE.

strength had driven back the thin British line south of Ypres. Fortunately Foch was alive to the situation and sent up French troops which restored the battle. With what he sent up with the Eighth French and the Tenth French Armies and the French Cavalry Corps, the troops from the 9th and 16th French Corps and British reinforcements, the Allies held off the Germans. It was on a bloody battlefield that the Entente between the two nations was sealed.

Once more Foch had played the part of a good manœuverer. When troops were wanted he sent them. The Allies were unable to advance on Bruges as they had intended, but at least they bore back the German onslaughts.

Foch, now in full command at the northern end of the French line, with the English acting in concert with him, was also able to assist the Belgians on the Yser, now with guns, again with infantry. When at the end of October the sluices in the shore-protecting dykes were opened, the front of the Belgians on the Yser (they were on the south bank from October 20) was rendered unassailable on its inner flank and thus their task here was lightened. By the middle of November the German offensive against the Allies' left flank was definitely stopped.

The great value of Foch's work in the critical days of 1914 was to be remembered afterwards when, more than three years later, he was summoned to the highest responsibility, with the warm approval of every competent soldier in the west.

During 1915 Foch commanded the French Armies of the North, and to him belonged a great part of the credit for the battles in the Champagne. On September 25, 1915, in conjunction with the British forces he took part in the great fight which we generally call the Battle of Loos. General French was to attack the Germans between the Béthune-La Bassée Canal and a point just south of Grenay where the right of our First Army made connexion with the left of the French under Foch. The latter had a force about double that of the British Commander-in-Chief at his disposal. At the same time our Allies were also to make a vigorous attack on the German lines in Champagne. The battle, as is now well known, was not a success. Our troops, indeed, in the fighting, which lasted with occasional lulls till October 14, carried some four miles of German trenches, and penetrated in places up to a depth of 3,000 yards into their position. But we were not able to hold the whole of it, while the French on our right were not even as successful as we were. The main reason for this was that

the two attacks were not properly co-ordinated. We went forward at 6.30 a.m. on September 25 covered by a smoke and gas screen. To quote the language of the Historical Section of the Committee of Imperial Defence: "The French

FOCH AS MARSHAL OF FRANCE,
August 23, 1918.

were not using gas, and, wishing to carry out the final stages of their bombardment at a time when the light would be favourable to observation, settled on 12.25 p.m. as the hour for their attack." It followed, therefore, that for six hours we had not only to assault but also to guard our right wing from counter-attack. A battle arranged on such a plan was hardly likely to be a great success, and, as a matter of fact, the ground gained by our Allies never came up to the same level as that which we had won. The battle formed a very practical proof of the necessity for the unity of command which was not instituted, however, till two and a half years later, at the end of March, 1918. In 1916 Foch was still in the same post, and directed the operations of Generals Guillaumat and Fayolle during the battle of the Somme. But towards the end of the year he was removed, partly on grounds of health, and made head of a species of committee which was charged by the French Government with the preparation of various schemes for the conduct of the war, and which was then stationed at Senlis. He had on September 30 received the unique honour of being kept on the active list without age limit, a reward only given to generals of very distinguished ability.

On May 15, 1917, when Pétain succeeded Nivelle, Foch became Chief of the General Staff of the Army. In this capacity he was the closest military adviser of the French Government. For that reason, and also because of his achievements in 1914, when he had shown his capacity for straightening out more than one difficult situation, Foch was obviously marked out as the head of the special mission which was sent to Italy in the great crisis of October, 1917. Once more he was successful. He had previously studied the question as to how aid could best be given—in collaboration with his co-adjutor Colonel (afterwards General) Weygand, and the small but able staff which he had round him. The consequence was that when the occasion arose he had his plans fully matured, and the necessary reinforcements were sent to Italy without a hitch.

The stages of Foch's progress in connexion with the formation and expansion of the Versailles Council, until his appointment as Commander-in-Chief, have already been explained. In August, 1918, he was promoted a Marshal of France.

Foch set about his task with characteristic calm and determination. He employed only a small staff, devoted himself to the large issues, and avoided unnecessary interference in details, which were left mainly in the able hands of his constant assistant, General Weygand.

Marshal Foch had won many honours and

much recognition, but war had not left him without individual suffering. His only son and his daughter's husband had been taken, and left behind them orphans who never knew their fathers. Such is the fortune of war, such are the trials which those who take part in it must suffer. But however severe the blows of fate, nothing disturbed his calm and keen judgment. He had always believed in the superiority of the French soldiers over their enemies, and in the darkest days of the Allies' fortunes he had never despaired, but had calmly waited for the day when he felt he could properly turn on the Germans—and rend them. Thus it was that when their offensive began in March, 1918, he suffered from no anxiety. As he told the British Premier, if he had been a free-lance he would have preferred to command the British and French in the positions they were then in rather than to be given the command of their opponents. A fortnight later he observed: "The flood is dammed; the waves are breaking against the obstacle they have encountered." The advance the Allies resumed on July 18 showed that "every well conducted war is methodical," as Napoleon said, and we saw the constant and continuous pressure for nearly two months drive the Germans steadily back till they were approximately in the positions from which they started in March, 1918. But Foch always preached far more than this. He constantly reiterated the need for winding up a battle with a blow from which the enemy must stagger, reeling, back, the finishing stroke from which the opponent cannot recover. In fighting a manœuvre battle, "the reserve forms the mace carefully prepared, organized, and kept together for the only act in such a battle from which an adequate result can be obtained, the finishing stroke. The reserve must be kept in hand as much as possible, that it may be as strong as possible and so that the blow it will give may be as overwhelming as possible—let go at the last moment regardless of cost, with the definite object of carrying a selected point —used in mass with a vigour and energy above all the other fighting of the battle, characterized above all by surprise and rapidity—to gain the one and only object for which it was prepared, and to carry out which the entire force available must be employed.

CHAPTER CCLV.

MEDICAL SCIENCE AND THE PESTS OF WAR.

TROPICAL MEDICINE BEFORE THE WAR—THE NEW EFFORTS—INSECTS AND PUBLIC HEALTH—FLIES AND MOSQUITOES—MALARIA—ITS PREVENTION SECURED—BUBONIC PLAGUE AND RATS—THE RAT FLEA—PREVENTION OF PLAGUE—THE TSETSE FLY—TRENCH FEVER—THE DISEASE AND ITS CAUSE—THE BATTLE AGAINST LICE—NEW DISCOVERIES—INFECTION OF VOLUNTEERS—TRENCH FEVER AND SOLDIERS' HEART—TREATMENT—OTHER PARASITES—THE STIMULUS OF WAR AND PUBLIC HEALTH.

IN previous chapters it has been shown that, in spite of many adverse circumstances, not the least of which was the suddenness of the call made upon the Army Medical Department at the beginning of the war, the health of the fighting forces was maintained at a very high standard. This result was achieved almost entirely by the adoption of scientific methods and by recognition of the principle that to preserve health is a much more important duty than to cure disease.

The recognition of this principle was an inheritance bequeathed by the early workers in the fields of tropical medicine, in which fields Army doctors had greatly distinguished themselves. These early workers accomplished a task of such magnitude that all later efforts seem small by comparison. They worked for the most part in obscurity and without public encouragement, but their enthusiasm never waned. The success which crowned their efforts laid the foundations of all the work done during the war. The war, indeed, served as a great stimulus to their work; it did not initiate it. This fact must be borne in mind throughout by the reader of the present chapter.

Unlike disease in temperate climates, disease in the tropics was apt to exact a death rate which rendered enterprise in these regions exceedingly hazardous or impossible. The diseases, too, even when recovery took place, tended to cripple a man permanently. It was almost impossible in many instances to eradicate them from his blood. He remained liable to new attacks and to fresh complications. This state of matters made it a necessity of life that efforts should be organized to study those diseases, and, if possible, find out some way of bringing them under control.

The early work was largely unfruitful. It is only necessary to glance at the literature of the most notorious of all tropical diseases, malaria, to understand how hopeless the problem of its control seemed before the mosquito was proved to be the active agent in propagation. The same thing applies exactly to bubonic plague, to sleeping sickness, and latterly to trench fever. Only when the flea, the tsetse fly, and the louse respectively were convicted was it possible to see those diseases whole, and to organize measures of an effective kind for their prevention.

The importance of the insect world in relation to human health was thus, at the beginning

of the war, only just becoming understood by the general public, and this in spite of the fact that the Panama Canal had at last been completed as the direct result of a campaign against the mosquitoes, whose ravages had held up

[Natural History Museum Economic Handbook I.
HOUSE FLY (Female).
Natural size and magnified.

that enterprise for so many years and caused so terrible a loss of life and material. Insects of various kinds were described as "lesser" horrors of war. They were scarcely taken seriously by the private soldier. When the trenches became infested with lice, that was too often accepted by the rank and file as unavoidable, and borne with as part of the general discomfort of the times.

But the great epidemic of typhus in Serbia had the effect of sobering public opinion, and so of rendering the work of the disinfector more easy. The terrible description of suffering which reached England from that unhappy country opened the eyes of even the most determined sceptic. It was seen that, given the insect carriers of a disease in large numbers, and given the seeds of the disease, an epidemic becomes a certainty. The lesser horrors of war are changed into the propagators of its very worst horrors.

The necessity for a wide change of public attitude in regard to insect pests was urged in the columns of *The Times* so early as 1915. Before this period much work had been accomplished, but the nation as a whole had not been roused to a sense of danger. The European battlefield could be by no means so carefully dealt with from a sanitary point of view as was possible later in the war. Swarms of flies tormented our soldiers, especially the wounded, and the constant going and coming of large bodies of men seemed to afford many opportunities for the spread of fly-borne disease, should it break out in France, to this country. It was accordingly urged by both military and civil authorities that the domestic fly was a public danger of the first magnitude, not only to the armies in the field, but also to the people at home, especially to the children.

[Nat. Hist. Museum Economic Handbook I.
LESSER HOUSE FLY (Male).
Natural size and magnified.

And it was widely advertised that the fly had been proved to be the carrier of various diarrhœal diseases and was under some suspicion of being an agent in the propagation of typhoid fever.

The effect of this warning was immediate. Research work upon flies at home received public recognition and help, and a sharp stimulus was given to methods of fly destruction abroad, more especially in the East, where the sufferings of our soldiers from these pests were necessarily much greater than in Europe.

It had been known for long that the fly lays its eggs in garbage and manure heaps, especially stable refuse and the refuse of households. The eggs hatched into small maggots which lived in the garbage or manure and passed their cocoon stage there. From the manure

[*Micro-photograph.*

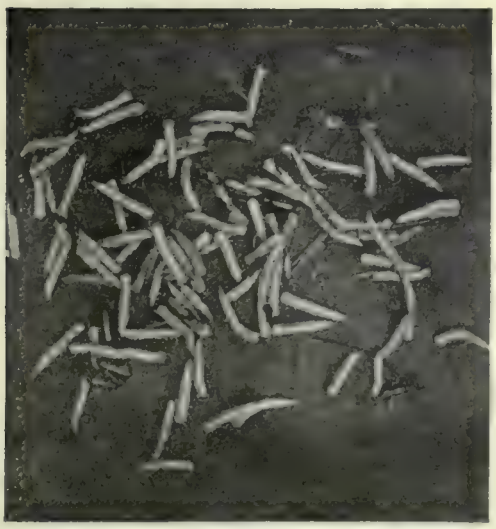
FLY VOMITING ON A LUMP OF SUGAR.

heap the fly passed to contaminate food, to crawl upon wounds, to torment the sick.

The Army medical authorities took early action and instituted a course of instruction in fly prevention for all medical officers whose duty it then was to act as centres of information and instruction for the men. The medical officers were taught that the chief hope of controlling this insect pest lay in abolishing its breeding places, in other words in strict cleanliness about camps and billets, in the destruction of refuse in incinerators, the burying deeply of refuse which could not be burnt and the treatment of all danger spots so as to insure that the young flies should not be able to reach the surface of the ground.

These measures were carried out with the greatest care and energy and there can be no doubt that their adoption was an inestimable boon to our troops on the Western front during the long period of trench warfare and in the Eastern theatres. Further, the campaign extended to the civil population, and municipalities issued rigorous instructions regarding the proper disposal of refuse, stable manure and other possible breeding grounds for flies. Lectures were delivered to the people, posters were designed showing the passage of the fly from the stable to articles of human food, teaching was given in the best methods of combating the pest during those stages of its life in which assaults upon it are likely to prove of use.

The results were very satisfactory. No fly-borne epidemic occurred; on the contrary vast numbers of breeding-grounds were wiped out, and so strong a prejudice against the insect was created in the public mind that measures of control became an easy matter.



[*Public Health Department, Liverpool.*

MAGGOTS OF HOUSE FLY

From horse manure.

[*Public Health Department, Liverpool.*

PUPÆ OF HOUSE FLY

From horse manure.

Much more deadly and dangerous than the fly was the mosquito. The work of Sir Ronald Ross and others had proved conclusively that malarial fever, or ague, is carried by the *Anopheles* mosquito. This insect imbibes the blood of a victim of malaria by biting him. In the blood so imbibed the malarial parasite exists as several clearly defined forms of which the so-called sexual forms are the important ones.

These sexual forms, male and female, pass into the stomach of the female mosquito in the blood which the insect has drawn from its victim. Arrived here, a male element unites with a female element and procreation takes place. The resulting body penetrates the

stomach wall and enters the surrounding structures.

It divides into a large number of offspring, which then make their way into the mosquito's salivary glands, there to wait until an opportunity of entering human blood shall be afforded them.

Thus the malarial parasite passes through what is called a "life-cycle" in the body of the mosquito. The parasite, in fact, uses the body of the mosquito as a breeding ground—a place for the union of the male and female elements and for the bringing to maturity of the offspring of this union. Without the mosquito this life-cycle could not take place. The importance of this fact will be evident in a moment.

As soon as the offspring of the male and female malarial parasites reach the mosquito's salivary glands, the mosquito becomes "infective"—that is to say, capable of giving malaria to any human being it may encounter and bite.

Infection occurs through the saliva of the mosquito. The malarial offspring on entering the human blood at once attack and enter red blood corpuscles, establishing themselves in the interior of these and growing there.

In the patient's blood a new "life-cycle" now begins, the so-called *asexual* cycle. Each parasite grows till it fills up the blood corpuscle in which it is living. At the time when the blood corpuscle is quite full the parasite has divided up into a number of progeny. The corpuscle then bursts, and the progeny is scattered in the blood stream.

It is at this moment that the attack of "ague" takes place, with its characteristic shivering attacks and symptoms of acute illness. The attack lasts a few hours, and then all the progeny of the asexual cycle have made their way anew into red blood corpuscles, and a second asexual cycle has begun. According to the nature of the parasite present this second asexual cycle will last two or three days, when another sharp attack of ague will take place at the moment of the bursting of the red blood corpuscles. And this process will be continued until the patient is treated with quinine, which kills the parasites, recovers himself, which happens in a few cases, or dies as the result of loss of red blood corpuscles, and general profound anæmia.

[*Canadian War Records.*

BURNING RUBBISH.

At each asexual cycle a certain number of male and female elements are born. These remain inactive in the blood unless and until a mosquito bites the patient and absorbs them. Without the mosquito they cannot mate and reproduce. The mosquito's body is an essential condition of their fecundity.

It will thus be seen that malaria is not an infectious disease from man to man in the sense that measles is an infectious disease. It is not "air-borne" or "water-borne" (like typhoid fever and cholera); it is not propagated by "contact," like scarlet fever. A man suffering from malaria might live for years in close contact with other people; he might be having his attacks of ague every third day with the greatest regularity; the asexual cycle of his parasite might be following an uninterrupted course of propagation, and yet, provided that no mosquitos were present, no hurt would come to anybody. Indeed, no hurt would come to anybody even if mosquitoes did happen to be present so long as these mosquitoes were not females of the *Anopheles* family. It is only in the female *Anopheles* that the sexual cycle of the malarial parasite can take place. It can take place nowhere else. Consequently malaria can be propagated from man to man only by means of the female *Anopheles*.

These discoveries, made largely by Sir Ronald Ross, I.M.S., and his fellow workers, belong to the Medical Services of the Army. They revolutionized the whole outlook of tropical medicine. They made commerce and they made warfare in the tropics possible. The older medicine had combated malaria with quinine, thus attacking individual cases after the enemy's invasion had occurred. The new medicine, adopting a saner strategy, carried the war into the enemy's country by attacking the *Anopheles*. Medical science reached out and touched hands with the entomologist on the one side and the sanitary engineer on the other.

The life history of mosquitoes became a matter of vital commercial and military interest, and, thanks to Ross's work, light was soon available on the subject. It was found that the *Anopheles* laid her eggs in pools and stagnant water, the water contained in a hoof mark in the ground or even an old tin being sufficient for the purpose. The young larvæ when hatched out became free-swimming in the water, but they were under the necessity of coming to the surface at regular and frequent

[*Natural History Museum, by permission of Trustees.*

LIFE HISTORY OF THE MALARIA PARASITE.

a, Exotospore or malarial germ; *b*, the same after entry into blood corpuscle; *c*, growth of exotospore into amœbula; *d*, division of amœbula to form enhæmospores: *e*, liberated enhæmospores; *f*, growth of enhæmospore into a crescent at expense of corpuscle; *g*, male, and *h*, female crescent; *i*, male cell with projections which lengthen and are eventually set free as spermatozoa; *j*, fertilization of ovum by spermatozoon; *k*, fertilized egg as the active motile vermicule; *l*, enlarged vermicule after boring through stomach wall of mosquito, forming the sphere: *m*, sphere containing countless spores which, when it bursts, escape as exotospores (*n* and *a*) into the organs of the mosquito's body and pass through the salivary glands into the proboscis and so infect a man bitten or pricked by the mosquito.

intervals for the purpose of breathing. If prevented from reaching the surface they very rapidly drowned.

From this discovery it was evident that any method which destroyed the breeding grounds of the mosquito, or rendered these breeding grounds unfit for use, would stamp out malarial fever. For example, if all the pools and stagnant

water in a particular area were drained the *Anopheles* would lack a suitable place to lay her eggs. The sanitary engineer found new fields for his enterprise in this direction. Or, again, if the pools could be coated with some substance—for instance, paraffin—which prevented the larvæ from coming up to the surface to

[*Photo. by Hugh Main.*

ANOPHELES MOSQUITO
In attitude of rest.

breathe, the larvæ would all perish. Both these methods were widely employed and the results which followed their employment transcended all expectations. The chain had, in fact, been broken at its weakest link—the mosquito larva. Malaria became a preventable disease.

This most brilliant scientific work opened the doors of the tropics to the white man. Unhappily, when the war broke out there remained many areas in which, for one reason or another, little effort had been made to cope with malaria along these new lines. Malaria in these areas was "endemic"—that is to say, vast numbers of the population were chronically infected (they had so far recovered themselves as to be able to carry out the functions of everyday life, but their blood swarmed with parasites), and *Anopheles* mosquitoes lived and bred without hindrance. For any uninfected person to enter these regions was for him to be attacked immediately. He did not possess the natural inuring to the disease of the native population. He might be expected to contract it in a severe form.

One of the worst of these endemically infected areas was found in the Struma Valley on the Salonika front to which it was found necessary, after the collapse of the Gallipoli campaign, to despatch an army. This valley had long been famous for its malaria, and practically no steps on a great scale had been taken to purge it. The expedition was decided upon as military exigencies dictated, and consequently there was no time for the Army Medical Service to do anything before the troops reached the Valley. Sanitation on a great scale was needful if the breeding grounds of the *Anopheles* were to be dealt with, and this, even in peace time and under good conditions, would have constituted a difficult task. In war time, and in the circumstances attending this expedition as first constituted, the task was well-nigh impossible. The most that could be expected was a perfunctory spraying of danger places with kerosene, the use of what mosquito netting might be available, and a liberal employment of quinine to render the soldiers' blood an unsuitable soil for the malarial parasite—so-called prophylactic quinine treatment.

The year 1916 thus saw a severe outbreak of malaria on the Salonika front; an outbreak which, however unfortunate, was certainly unavoidable in the circumstances. But this bad beginning was destined to be the prelude to a very remarkable campaign in preventive medicine, a campaign the success of which seemed problematical at the outset but which nevertheless achieved a notable triumph. The Army Medical Corps made a great effort to clean the malaria-infested country; it reduced

[*Natural History Museum.*

ANOPHELES MOSQUITO,
Female.

the breeding places of the *Anopheles* in a most remarkable way, carried out valuable schemes of sanitation and brought down the high incidence of malaria among the troops to a figure which was certainly not anticipated in earlier days. The prophecy made at the beginning that the Struma Valley would prove untenable was thus falsified, and a region of acknowledged military value was retained in the face of this deadly enemy. But for the work of

Ross and his fellows on the mosquito it is probable that a catastrophe would have taken place and that the enemy would have been as well served here by the insect world as he was in Serbia when the louse-borne typhus fever broke the health of the gallant Serbian Army.

But there was another side to the malaria danger, a side which was not at first, in the heat of the early days of war, fully appreciated. This may be called the menace of the "carrier." As has been shown, there are three links in the chain supporting this disease. There is the mosquito, there is the breeding ground of the mosquito, and there is the human reservoir from which the mosquito draws its malarial parasites. Preventive medicine cannot destroy mosquitoes "on the wing"—that would be like trying to empty the ocean with a teacup. So it destroys the breeding grounds, kills off the next generation of mosquitoes and renders such human reservoirs as exist in the neighbourhood innocuous.

In neighbourhoods where no human reservoirs of malaria existed, preventive medicine had not, before the war, been called upon to play any part, even though these neighbourhoods were known to be full of *Anopheles* mosquitoes. The mosquitoes themselves, being quite free of malarial parasites and having no access to persons infected with malarial parasites, were relatively harmless. Their bites, though troublesome, led to no serious consequences, and the ordinary everyday methods of killing as many as possible when they proved annoying seemed to suffice.

That state of matters existed in England before the war. England, once an ague-infected country, had gradually become free of this disease, largely as a result of the draining of the fen country and the consequent destruction of the *Anopheles*' largest breeding places. Malaria on any considerable scale became a thing of the past.

MOSQUITO NET AS SUPPLIED TO FRENCH SOLDIERS AT SALONIKA.

But the *Anopheles* continued to live in the country, using small pools about farmyards and stretches of stagnant water for the deposition of its eggs just as in tropical and sub-tropical countries. Occasionally a case of malaria arising in England was reported, but generally speaking the disease was not a problem which by any stretch of the imagination could be called serious. The number of persons infected with malaria in the tropics and remaining at home in active stages of the disease, that is with their disease insufficiently treated, was infinitesimal, and the mosquitoes

FILTERED AND STERILIZED WATER FOR THE FRENCH TROOPS.

had really no chance of infecting themselves.

But the war altered this state of matters. The malaria of the Struma Valley and the malaria of Egypt, of Palestine, of East Africa, and later, of Italy began to be imported and to be carried in the bodies of its human hosts all over the country. In particular, the Struma Valley variety was found to be most intractable to treatment, large doses of quinine administered over long periods failing to effect a cure or to prevent sharp recurrences.

This state of matters was soon taken into the active and anxious consideration of the authorities, who recognized at an early moment that in England itself the three links in the malaria chain now existed—the *Anopheles* mosquito, its breeding grounds and the necessary human reservoirs of the malarial parasite.

It was felt that in this case the weakest and most easily handled link of the chain was not the breeding ground of the mosquito, but rather the human reservoir. The human reservoir was a soldier: he arrived in the country a marked man, the type of his malaria was known, the history of his case was known from the outset, the degree of his advance towards cure was known, the probability of his obtaining a complete cure could be estimated. Manifestly the best thing was to secure that his treatment should be as thorough as possible and that he should not, while yet in a state capable of infecting mosquitoes, be moved into any area known to contain mosquitoes of the *Anopheles* type.

The assistance of the Medical Research Committee was accepted by the War Office, and it was decided as an early measure to work in harmony with the health authorities of the country and to carry out a malarial survey of England in order to determine the areas in which *Anopheles* mosquitoes were most prevalent. This was done and these areas were carefully marked. It thus became possible to take such local steps as might be necessary to drain breeding grounds or to treat them. It also became possible to prevent dangerous "carriers" from going, while still insufficiently treated, into these areas.

The War Office, acting with great enlightenment, placed Sir Ronald Ross in the position of an adviser and special hospitals for the treatment of malaria were opened. Cases which proved refractory to the ordinary methods of treatment could then be sent for special treatment and no stone left unturned to secure the civil population against infection.

These measures met with the success they deserved and no outbreak occurred. They furnished yet another illustration of the vital importance of exact knowledge of the means of propagation of disease. Only the possessor of exact knowledge could determine the proper steps to meet each emergency, or in other words which link of the chain of disease was likely in given circumstances, to prove the weakest.

Not less menacing than malaria to the success of the Allied Armies was bubonic plague. This scourge had for centuries been the chief enemy of armies, as the history of older wars clearly proves. Its infectious character rendered it not only deadly but demoralizing. Its very name, "plague," had become synonymous with defeat and disaster.

A great deal of brilliant scientific work had been accomplished on plague before the outset of war, and notably in India, where the scourge had for centuries been endemic. It had been noted that outbreaks of plague were almost always marked by the presence in the affected areas of large numbers of dead rats. Thus from an early period the association between rats and this disease became fixed in the popular mind. Moreover, the term "rat plague" was commonly used because the rats died as freely as the human victims.

The first impression naturally was that both rats and men were affected from a common source. But later investigations seemed to show that this parallel possessed a deeper significance. It was observed that where rats were few plague was also restricted; where rats abounded plague tended also to abound.

This led to a closer investigation of the possibility that the rat might in some fashion serve as the carrier of the plague infection. At the time the new tropical medicine was coming to be recognized as of vast and far-reaching importance. Science had already inspired mankind with wonderful discoveries touching the importance of the insect world as a disseminator of disease. The minds of all workers were bent in the direction of entomological explanations of epidemics.

It was therefore inevitable that sooner or later the insects infesting rats as parasites should be studied, and their possible *rôle* in the propagation of plague made the subject of research. Happily, the work was undertaken sooner rather than later. It bore fruit almost from the beginning.

The progress of modern bacteriology had just discovered a host of new organisms which could, with a greater or less degree of certainty, be inculpated as the causal agents of diseases. The organisms or germs were found in the persons affected with the diseases. They were not found in persons not so affected. On being introduced into healthy animals they were able to reproduce the disease in these animals. It was therefore a fair assumption that the disease picture as recognized was the direct

A TRAVELLING FILTER USED BY THE BRITISH ARMY IN FRANCE.

result of the poisonous activities of these germs.

The importance of this is evident the moment the subject of the relation of the insect world to disease is taken into consideration. So long as no definite cause of a disease could be found there was little hope of tracing that disease to

[*Model in the Natural History Museum.*

THE RAT FLEA.

its source, because though insects might be suspected conviction could not be secured against them. The whole insect world constituted too great a problem even for modern science to attack. It was the bringing home of the charge to some specific insect that rescued tropical medicine from empiricism and established it as science. Mosquitoes, for example, had often been suspected of playing a part in the spread of malaria. But this suspicion remained unfruitful, and was bound to remain unfruitful, until the malarial parasite had been found and identified. The moment that had been accomplished, it was a comparatively simple matter to search the bodies of a large number of different kinds of mosquitoes for the malarial parasite. The finding of the parasite in the body of *Anopheles* clinched the matter.

In the case of plague the germ causing the condition had been found when the work in the rats was taken up. This germ was not a protozoon, like the malarial parasite, but a bacillus. That is to say, it was not a form of life so highly organized as to be capable of passing through life-cycles or of possessing male and female elements. Consequently the expectation was that, whatever *rôle* the insect parasites of the rat might play, they acted merely as carriers of the bacillus, not as its intermediate and essential hosts.

The most obvious rat-parasite was the flea, and work upon the flea was therefore carried out. This work revealed the presence of the plague bacillus in the flea's mouth, and immediately raised the strongest suspicion that the rat-flea was indeed the carrier of the disease.

Nevertheless an element of doubt remained. The rat-flea and the human flea are different types of the same family. It was not clear that rat fleas ever bit human beings; indeed, there was some ground for supposing that they could not or would not live upon men. A very careful piece of work completed just before the

[*Bacot & Martin in "Journal of Hygiene."*

TRANSVERSE AND LONGITUDINAL SECTIONS OF PROVENTRICULUS OF PLAGUE-INFECTED FLEA.

Showing (above) the tooth-like epithelial cells partially blocked with bacilli, and (below) a mass of bacilli projecting into the œsophagus.

outbreak of war, however, threw light upon this apparent weakness in the chain of proof.

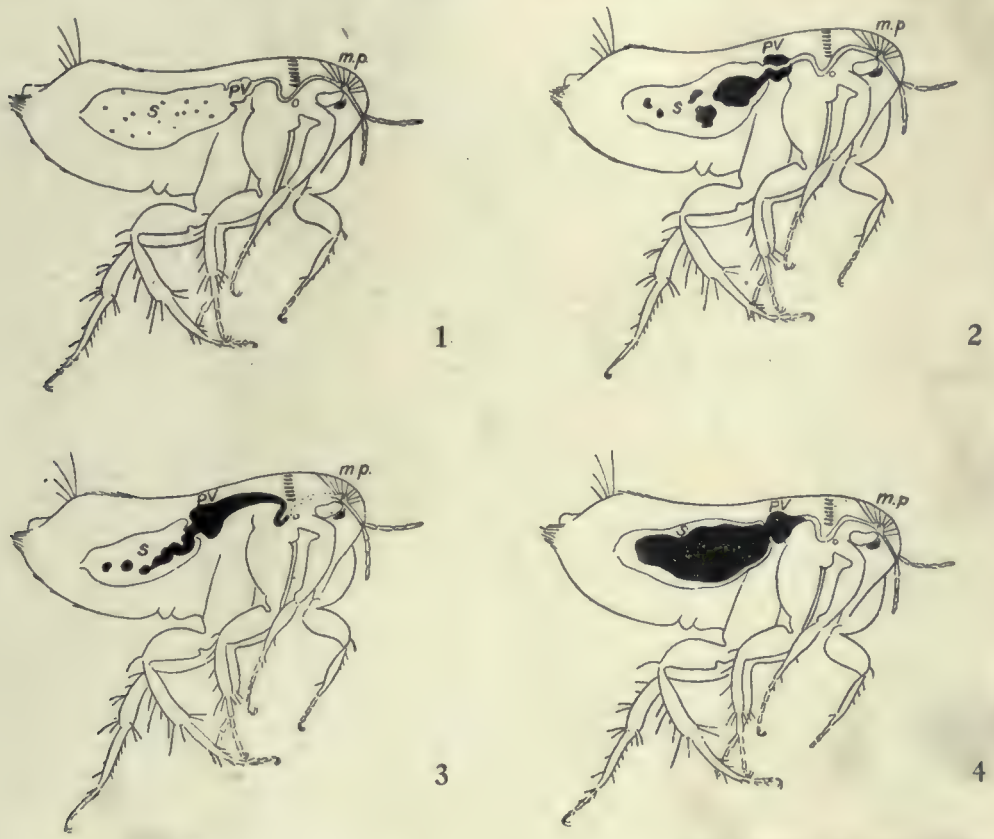
It was shown that in point of fact the rat flea did not bite men and did not live on them in ordinary circumstances. When, however, the rat flea became infected with plague from its host the rat, the plague germs multiplied

in the flea, and by causing an obstruction of its throat, prevented it from swallowing. The flea was literally starved.

The rat on which these half-starved fleas were living was also infected with plague. It died of its disease. The fleas, now starving both from loss of their host and from the condition of their own bodies, were ready in this extremity to bite any host who might come near them. They had passed beyond the stage of discriminating between one host and another.

two reservoirs of infection, the human beings affected and the rats affected. The rat flea served as a carrier from either of these reservoirs, biting rats or men indiscriminately, when itself affected by the disease, and possibly passing indiscriminately at that time from rats to men, rats to rats, men to rats or men to men.

The probable course of an epidemic was, however, an initial outbreak among rats with a transference from these to men. It was,



[*Bacot & Martin in "Journal of Hygiene."*

SECTIONS OF PLAGUE-INFECTED FLEA.

Showing 1, Brown specks visible in the contents of the stomach (*S*). These specks are small groups of plague bacilli. In 2, 3 and 4, jelly-like masses of bacilli are shown gradually filling up the stomach and proventriculus (*PV*). The muscles of the pharyngeal pump (*m.p.*) are not affected and the insect continues to suck, but the blood so imbibed is infected by the bacilli in the proventriculus and some of it flows back into and infects the wound made by the insect's proboscis.

Thus, if a new rat approached the body of the dead rat, the fleas would attack it—and thus infect it with plague. If the first possible host who approached happened to be a man, he would be attacked and bitten and so infected.

It was thus made clear that men, rats and fleas were all affected by plague. This chain of infection therefore contained three links just as the chain of malaria infection did. But the conditions were somewhat different. There existed in the case of plague not one but

indeed, generally observed that, where dead rats were found lying about, there plague tended to make its appearance. Consequently the method of preventing plague lay either in destroying rats or in destroying the fleas.

The latter course was not possible, for the flea is at no period of its existence easily attacked on a great scale. Fleas like flies pass through a larval stage, but the grub is deposited in dry earth or other suitable location and cannot be got at. The only method, then, of attacking plague was to control the

migration of rats, to destroy as many of these as possible and to segregate all persons affected with the disease. In other words, hope lay not in the destruction of the carriers but in the reduction and control of the reservoirs.

This control was exercised from the very outset of the war and in the most rigorous fashion. It was clearly realized that the transference westwards of large bodies of Indian troops would be fraught with danger unless great vigilance was exercised. Plague had been originally brought to Europe from the East by the Crusaders and had then swept away enormous numbers of the population. The same thing might easily enough happen again.

The medical authorities in India, at the European ports, and in control of the health of the armies co-operated to act as a detective force against this most deadly enemy. The utmost care was taken to ensure that no case of plague was shipped, and that no case occurring on the way should be overlooked. Inspectors were charged with the duty of looking out for signs of infection among rats and efforts were made to kill rats wherever possible.

The results were satisfactory in the highest degree. During the war occasional cases of plague occurred and were reported. But these cases were always few and far between and they were always detected at once before any spread of infection had taken place. Infection did not reach the armies. Indeed, the port medical authorities acted in this respect in a way entitling them to the thanks of the whole community, military and civil. Their "intelligence service" was tested and found to be remarkably efficient, and they had the active co-operation of the Local Government Board health officials in providing against possible spread of infection when any case of plague was discovered. The areas visited by the disease were rapidly placed under surveillance; campaigns against rats were organized and pushed with vigour; investigations into the health of the rat-population were carried out and all persons who might in any way, no matter how remote, have had contact with the cases of plague were isolated until such time as it could be definitely certified that they were free of infection.

When the immense difficulties of the early years of war are taken into consideration it will be evident that this silent warfare against

A "BAG" OF RATS FROM THE FRENCH TRENCHES.

plague constitutes a great triumph of medical and sanitary science. Immense numbers of Indian soldiers were brought across the seas from a country in which this disease is always more or less active to countries which constitute a virgin soil for the disease. They were brought hurriedly in answer to an urgent call for help. They were brought at a moment

[*Natural History Museum.*

TSETSE FLY (GREATLY ENLARGED).

when the available shipping was subject to heavy demands in almost every direction; they were brought when doctors were being urgently called for in all the theatres of war and many of the most capable of them and also of the inspectors, sanitary workers and experts were leaving to join the armies. Yet in spite of these great and obvious difficulties and dangers the enemy never succeeded in penetrating our defences. At the first sign of his presence resolute measures were put into operation and he was immediately forced to retreat.

It would be ungracious in this respect not to record the fact that the Allies owe a debt of gratitude to the French port and sanitary authorities at those places where troops from the East were disembarked. Their vigilance was no whit less keen than that of our own staffs, and their task, during the early period of the war, was certainly onerous to a degree.

Comparable to plague, but of a very different type, was the tsetse-fly disease, which continually threatened the armies in the East African campaigns. This disease, though not a menace to human life, constituted in a true sense a threat to the soldier and a pest of war by reason of its effects upon transport animals and animals employed to draw guns and other weapons.

The disease had been well known for many years, and had proved one of the great scourges of the country. It had prevented any attempt on a large scale to open up the country. It cost annually thousands of pounds in respect of loss by the death of horses and cattle.

In this case no efforts were required to locate the carrier of the disease, because the identity of this was already a matter of common knowledge. From early times it had been known that the tsetse-fly was the immediate cause of the deaths occurring, and it was accepted as a fact that an animal bitten by this fly sickened and died within a short period in the vast majority of instances.

The nature of the disease, however, and its bacterial or protozoal cause were unknown

[*Natural History Museum.*

TSETSE FLY IN ATTITUDE OF REST.
Showing the complete closure of the wings and the characteristic thick straight proboscis.

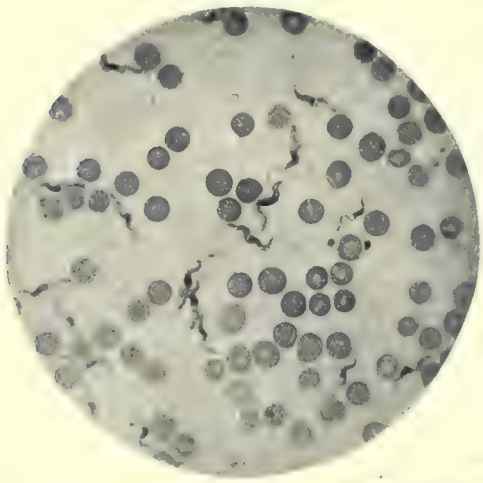
until within a few years before the onset of war—a matter of regret, as will presently be seen. It was at first suggested that the fly itself was "poisonous," but in the light of newer investigations that view was abandoned, and scientific commissions took up the study from the point of view of a definite causative agent carried by the fly and introduced by it into the bodies of its victims.

A great deal of work was carried out by Sir David Bruce and others, the upshot of which was that a body was discovered of which it could certainly be said that it was the organism of *nagana* or tsetse-fly disease. This body was recognized as a *trypanosome*, and it was easily recovered from the blood of the animals infected.

The next step naturally was to investigate

the life history of the tsetse-fly with a view to carrying out campaigns of destruction. Unhappily the result was not of an encouraging nature, for though the fly is confined to definitely circumscribed belts of country, its means of propagation affords little opportunity of attacking it. Like the flea, it breeds here and there, and its breeding places cannot be dealt with on any considerable scale.

Consequently it became necessary to look



[F. Martin Duncan, F.R.M.S.

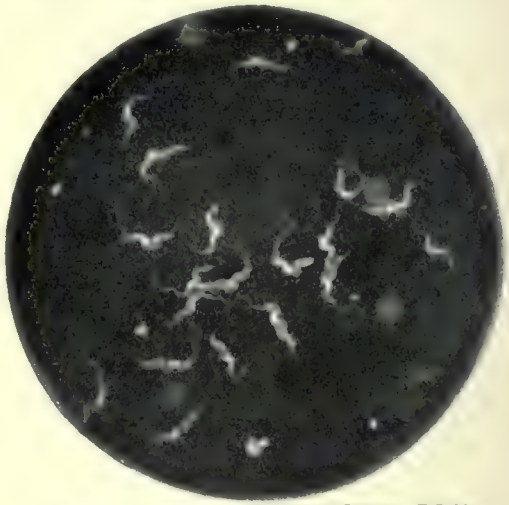
BLOOD INFECTED WITH THE TRYPANOSOMES OF SLEEPING SICKNESS.

for another link in the chain of the disease which might prove to be breakable. This search was by no means an easy one, as will be understood when it is realized that almost all the animals infected by the disease rapidly died of their infections. Nevertheless, it was quite evident that some reservoir must exist; otherwise the disease could not be present continuously and in an active form.

At this point it occurred to some of the workers that possibly a reservoir might be discovered in the big game inhabiting the "fly" districts. It was known that to almost any disease immunity may be established. That is to say, if a race of men or animals is continuously exposed to a particular infection the weaklings will be killed off, but a stock will survive with the power latent in its blood to resist the onset of the disease, and to hold the disease in abeyance. These animals will become infected in the usual way, but they will not die of the infection; indeed, they will live and keep well in spite of it.

This principle had long before received striking endorsement from the fact that, on measles being introduced into the South Sea islands, thousands of the inhabitants were stricken down and died. A disease which had become comparatively harmless among a population inured to it through generations proved exceedingly deadly when attacking a so-called virgin population.

Investigations were therefore begun into the state of the large fauna of the "fly" districts. These investigations rapidly showed that the big game was in fact infected by the



[F. Martin Duncan, F.R.M.S.

TRYPANOSOMES OF SLEEPING SICKNESS.

trypanosomes of tsetse-fly disease or "nagana," and that it acted as a reservoir of this germ. The blood-sucking tsetse-fly was thus continuously replenished with trypanosomes each time that it fed on an infected antelope or other big game animal, and thus the disease was kept going. The big game did not themselves suffer from the presence of the parasite, but they afforded it a lodgment and kept it going.

It was suggested, when these facts were made known, that steps should be taken to fence in an experimental area of the "fly" district and to kill the big game in that area. Thereafter cattle might be introduced into the fenced area, and the theory of the big-game reservoir put to practical test. The suggestion was an eminently sound one, and was endorsed by high scientific authority, but unhappily it met with strong opposition in England. The grounds of the opposition were that the proofs that the big game acted as a reservoir were not complete, and that therefore the experiment was not justified. It is to-day a matter of profound regret that this opposition prevented the carrying out of a scientific

investigation which must have thrown valuable light on a very obscure problem, and which had it supported the views expressed, must have opened the way to the destruction of "fly" disease. The transport animals of our armies undoubtedly suffered heavily from disease, as indeed they were bound to do. Happily sleeping sickness, which it had been shown was also due to a trypanosome carried by a fly, did not present a problem of any magnitude.

The campaign against malaria and plague was founded upon scientific work carried out for the most part before the outbreak of war. In the case of plague the severity of the disease, and the public fear of it, ensured adequate measures of prevention over practically the whole world. Plague played little or no part in the war. Malaria, a less severe disease, had been less widely dealt with, and in some areas had not been dealt with at all. Malaria played a relatively important part in those theatres of war where it existed. There remains to be described an insect-borne disease on which no scientific work of any sort had been carried out when war began, and which in consequence exacted a heavy toll of suffering and disability. This disease was called—for want of a better name—trench fever.

The disease was unknown before the war, and though numerous attempts were made to relate it to diseases met with in civil life, yet no clear case was made out. Among conditions it appeared to resemble closely were, however, the so-called "sweating sickness of Picardy," which wrought havoc in the armies of Henry V., the tropical disease dengue, and the "muscular rheumatism" well known in England.

At first the condition was generally regarded as influenza, and was returned as such. But

[*F. Martin Duncan, F.R.M.S.*

LANCET AND PROBOSCIS OF TSETSE FLY

that it was not influenza was made evident by closer investigation. Influenza in the majority of instances begins with a cold in the head and with symptoms of catarrh. Trench fever was almost never accompanied by these manifestations. Again, influenza spreads rapidly in epidemic form affecting large numbers of people in the same area. Trench fever did not show this type of spread. On the contrary, cases sprang up here and there, and not necessarily in groups

DISINFESTING CLOTHING IN MESOPOTAMIA.

[Official photograph.

AN OPEN AIR BATH NEAR ARRAS.

It was then suggested that the disease might be dengue, so well known in Egypt. But when examinations were carried out by doctors who had treated cases of dengue, that idea was despaired of. Thereafter a number of observers suggested that it was a form of paratyphoid fever, and should be included in the typhoid group.

It happened, however, that when that suggestion was made a new test for typhoid fever had been discovered by Captain Fairley Marris. This worker had found that patients affected with typhoid fever, or with its homologues, Paratyphoid A and Paratyphoid B, showed certain peculiar reactions to the drug atropine (belladonna). If $\frac{1}{33}$ gr. atropine was given hypodermically to a normal man, some quickening of his pulse always took place. Captain Marris, using the drug in the treatment of a case of typhoid fever, was surprised to note that no quickening of the pulse occurred. The pulse remained at the rate it had been at before the drug was given. This discovery was so remarkable that when opportunity occurred another patient with typhoid was observed under the influence of atropine. Again there was no quickening of the pulse. The matter was reported upon and investigated further, and it was found that in atropine a valuable test of the presence or absence of typhoid fever existed. The findings of the atropine test anticipated by some days the bacteriological findings, which latter, however, almost invariably confirmed them. In cases in which atropine produced its usual and normal degree of quickening of the pulse, the bacteriologist failed to discover any typhoid bacilli.

Captain Marris's test was applied to the new disease, and he was able to report that the usual quickening occurred, and that consequently the disease was not a member of the typhoid group of infections. This finding was confirmed by bacteriological work, and disposed of the idea that the condition belonged to any well recognized branch of disease.

Meanwhile, the condition had been appearing under all kinds of different guises. Those who frankly did not recognize it at all, adopted the straightforward course of calling it "P.U.O." or Pyrexia of Uncertain Origin. Others, adopting names which seemed to correspond to the leading symptoms present, called it lumbago, muscular rheumatism, and "trench shin."

The disease did not die out as influenza would have done. On the contrary, it increased. Cases began to be reported all over the western

front, and the German medical literature showed that the German Armies, especially those operating against the Russians, were affected by it. The Germans for this reason called it "Volhynia fever." Attention became more and more closely focussed upon it, and a great number of theories as to its origin began to be expounded.

At the beginning the most popular view was that it was a gnat-borne disease. It was pointed out that it had first made its appearance in the summer of 1915, and that in consequence the probability was that it must be carried by some winged insect which hatched out during the summer months. The expectation was expressed that it would tend to die away during the winter.

Critics of this view pointed to the fact that the winter of 1914–15 was the first winter of war, that trench warfare was only then beginning, and that the conditions met with as 1915 advanced were not fully realized. They considered that the case against the gnat had not been fully made out.

Their view was supported very strongly by the fact that during the winter of 1915-1916 the disease by no means died out. It increased. The gnat theory was thereafter abandoned.

During this period several workers had been busy in the study of the disease—notably McNee and Renshaw. These observers enjoyed wide opportunities of study and made the most of their opportunities. They published a most illuminating paper giving the results of their work.

The disease was characterized by an initial shiver in many cases, or it might come on gradually. The affected man felt weak and giddy and sometimes collapsed there and then, either in a faint or else from failure of his legs to support the weight of his body. He suffered from a severe headache and from pains all over his muscles. His eyes tended to be red and inflamed-looking and he sweated profusely.

On being examined it was found that his temperature had risen, usually a matter of three or four degrees to 102° F. or 103° F. He was very uncomfortable and the pain in his shins might be so severe as to cause him to writhe in bed. On the other hand it might not be severe at all. Sometimes, as in the case of malaria, the spleen was enlarged. Often pain was present in the left side.

The temperature tended to remain high for periods up to three days. It then fell and the man seemed quite well, but on the 5th, 6th,

[Official photograph.

CLEAN SHIRTS FOR BRITISH SOLDIERS.

BREWERY VATS AS BATH-TUBS.

7th or 8th days it usually rose again sharply and all the symptoms of the disease recurred. Thereafter recovery appeared to take place.

This was one type. A second type of the disease ran quite a different course. There was a very abrupt onset followed by a sharp rise of temperature with, as a general rule, excruciating pains in the shins from the outset. The temperature remained up about 12 hours and then fell very sharply to normal, and the man was better. Next day, however, the same thing might occur, or three days later (like tertian malaria), or five days later (so-called "five days fever" of the Germans). The symptoms all recurred. Sweating was profuse and the picture was very like that presented in the old records of sweating sickness.

McNee and his co-workers carried out a prolonged examination of the blood of the patients in an endeavour to find some parasite. These investigations, however, revealed nothing except a slight change in some of the white blood corpuscles. There seemed to be no sign of a germ of any sort.

They then adopted the idea of attempting to find how the disease was transmitted, and for this supremely important work asked for volunteers willing to be infected with a condition which so far as was known had never proved fatal to anyone and entailed at the worst only a few days' illness.

It is to the credit of all concerned that volunteers were easily obtained. When this had been achieved a few cubic centimetres of blood were drawn from the arm of a trench fever victim and injected into the arm of one of the volunteers. Some 15 days passed during which the volunteer remained perfectly well, and then a remarkable thing happened. The volunteer took ill, developed headache, backache, red eyes, and pains in his legs, and passed into a typical attack of trench fever.

Encouraged by this most important discovery, McNee and his friends at once decided to carry the matter farther. They had now established a strong presumption that the infection of trench fever, of whatever nature it might be, existed in the blood stream of the victim, that it was capable of being taken out of the blood stream (*e.g.*, by a biting insect), and that if introduced into another man it was able to reproduce the disease in its new host.

The disease reproduced had been of the first type described, that is the type showing a rather prolonged original attack with one relapse about the eighth day. The second type, like a true relapsing fever, with relapses every day or every few days had not been reproduced. (This second type had already been mistaken for the relapsing fever of the tropics, but that idea had been discounted because the germ of relapsing fever, the "*spirochæte* of Obermeyer" was not found.)

The next experiment consisted in taking blood from the first volunteer while yet his artificial attack was in progress and injecting it into a second volunteer. Once again the theory was confirmed. The second volunteer developed the disease after about 14 or 15 days.

He developed, however, a rather different type of the disease from the first volunteer. The picture of the attack was no longer the picture with a prolonged initial wave of fever followed by a relapse, but was rather a modification of that picture in the direction of the true relapsing type, a kind of half-way picture between the two types which had been met with in the wards.

A third experiment was therefore carried out, using the blood of the second volunteer and passing it into a third volunteer. In this case the disease once more appeared after the usual lapse of time. But now it was the second type or true relapsing type of fever that was produced. The early type of fever had been modified and replaced in the course of the work until it had given way to the relapsing type.

This series of experiments led McNee to express the view that there were not, in fact, two types of trench fever. There was only one type. In early attacks the prolonged initial fever was met with. The patient then apparently recovered. But later he relapsed and began to show the second type, or true relapsing type.

The great importance of this was at once recognized and it was seen that in some cases, at any rate, trench fever might prove a much more prolonged and troublesome disease than had originally been suspected. It might, indeed, become a serious menace to the health of the Armies.

Having now established the fact that the poison was present in the victims' blood, McNee set himself to discover in what part of the blood, the blood corpuscles or the blood fluid, the poison was present. This was important because a great part of the success of the work on malaria had been due to recognition of th

fact that the malarial parasite enters a red blood corpuscle and grows within it Consequently it was resolved in a new series of experiments to separate blood corpuscles from blood fluid and inject them separately.

This was done and the results seemed to show that, while volunteers who received the corpuscles developed the disease, volunteers who received blood fluid without corpuscles did not develop it. There was, however, some doubt about the accuracy of these findings, as the difficulties of effecting a complete separation of corpuscles from fluid were very great. McNee, therefore, while expressing the view that the poison, like that of malaria, resided in the corpuscles and not in the blood fluid, adopted a cautious attitude and suggested the need for future work. This caution was justified by future events, for the American workers engaged on the study of the disease in France subsequently showed that the poison was present in the fluid part of the blood, though it might apparently adhere to the corpuscles. This adherence of the germ to the corpuscles explained McNee's original finding.

It was now evident that trench fever was a blood disease, with a tendency in some subjects to go on relapsing, that it was communicable from man to man by blood transference and that it was likely to prove a menace to the strength of the fighting forces. This last idea received confirmation on every hand. Regimental medical officers wrote of the large number of cases they handled and of the fact that men once affected tended to relapse; officers at the bases testified in similar language, and even medical men employed with troops in England declared that cases had occurred among hospital orderlies attending victims of the disease on their return to England from France.

The general consensus of opinion at that time was that the disease occurred only in the trenches, or just behind the lines, though it was known that cases had occasionally been observed to arise in hospital. The name "trench fever" was therefore officially adopted. This, as will be seen, was rather a misfortune.

Other workers had been engaged on the study of the disease, and notable among these were Davis and Weldon. They set to work in rather a different way from McNee, and they adopted as their basis of investigation the theory which had begun to find supporters.

[Australian official photograph.

AN AUSTRALIAN SOLDIER, AFTER A BATH, RECEIVING HIS ISSUE OF CLEAN UNDERWEAR.

TANK FOR CARRYING INFESTED BEDCLOTHES TO THE DISINFESTING CHAMBER.

that in lice a possible carrier of the disease existed.

Of all the parasites which infested the trenches lice were much the most prevalent. They abounded everywhere, in trench and dugout, and it was becoming literally impossible for anyone to avoid becoming infested with them. The experiences of the epidemics caused by these insects in Serbia had already awakened general interest in them; the havoc wrought by typhus fever in that country furnishing proof of the immense disasters which were liable to follow when they assumed the proportions of a plague.

Davis and Weldon set out to discover whether trench fever could be communicated as had been suggested, by the bite of the louse. They adopted the idea of using themselves as the volunteers, and they accordingly obtained some lice from their trench fever patients and placed these on their arms under watch glasses. In one case the louse was allowed but one feed. In the other case the louse was returned to the arm at a later period.

It was found that in the first instance—where the louse had only bitten once—no ill-effects were produced. In the second case however, where a more prolonged exposure to the louse had taken place a sharp fever resulted which was in every way identical with trench fever.

This work, which unhappily could not be carried farther at the time, sufficed to show that the case against the louse was a strong one. It did not, however, offer conclusive proof, as there remained the possibility that infection with the fever had occurred by other means. Nevertheless from that time the louse fell under grave suspicion, and preventive operations were begun so far as military exigencies permitted. The method was to heat clothes to 80° F. (dry heat) and to give men frequent changes of clothing, baths, etc.

Meanwhile the disease had broken out at Salonika and at other places. Major Hurst, writing from Salonika, afforded a picture of it which was at once recognized. He pointed out that so long as only troops from Gallipoli had been present, just so long trench fever was not met with. Later, when troops began to arrive from France the disease came under notice.

Further, and this was a most interesting and instructive point, the cases met with in Salonika were, in the first instances, all cases of the true relapsing type of the disease and not of the prolonged fever type. That is to say, accepting the view of McNee and his co-workers, they were cases which had already had their initial attack in France and were now passing into their chronic stage with frequent relapses. These men, however, soon acted as distributing centres of the disease, and fresh cases arose in Salonica, this time of the primary or prolonged type.

It was then realized how intractable trench fever was, how difficult to eradicate from the system, how apt to spread in new directions and to cripple the strength of fighting forces attacked by it. The interest taken in the disease grew more widespread and a large number of isolated investigations were carried out.

It cannot be said that much additional light was afforded by these studies. The mystery of the transmission of the disease remained; the louse had not been completely inculpated; the disease continued to spread. At this stage the study was taken up from quite a different angle of view.

As has already been described in this history, the War Office at an early date in the war interested itself in a disease known as Soldiers' Heart or the Irritable Heart of Soldiers, and opened a special hospital in Hampstead for the study of this condition. It was found by those working upon soldiers' heart that many of the cases arose after an acute infectious disease, that they represented in fact a delayed convalescence. Thus cases from Gallipoli who had had dysentery were common. These men showed the breathlessness on exertion, the palpitation, the tendency to giddiness and the pain over the heart which were the leading symptoms of "D. A. H." or Disordered Action of the Heart as it was called. When careful examinations were made the parasite causing one form of dysentery—the *Entamœba histolytica*—was found. If that could be eradicated from the patients' body the symptoms of soldiers' heart tended to disappear.

Another group of cases with soldiers' heart had suffered from tuberculosis at one period or another. Their condition represented a kind of mild chronic stage of tubercular disease, a chronic or low poisoning. Yet another group of cases owed their origin to rheumatic fever or, more vaguely, to "rheumatism."

But when these groups had been eliminated a further group of cases of soldiers' heart existed in which there was no history of rheumatism or tuberculosis and no record of an attack of dysentery. These cases remained difficult to account for. They were apt to suffer from occasional attacks of fever, but this was of rather an indefinite kind and was not closely identified with the heart condition.

In the summer of 1917 Major Byam was attached to the Hampstead Military Hospital staff and had placed under his care a number of cases of trench fever. Some of these cases were very severe, and he approached certain of the workers on soldier's heart to invite a study of the heart conditions found in the trench fever cases. The somewhat remarkable discovery resulted that many of the trench fever cases showed all the signs of soldier's heart and in addition showed other signs, such as painful shins and muscles, which had been noted in some of the heart cases.

The upshot was the placing side by side of trench fever cases and cases of soldiers' heart, and the collective study of the two types. The first facts that emerged from this collective study were that quite a considerable number of cases of soldiers' heart had a history of having been attacked by trench fever or other obscure febrile condition in France. These cases belonged to the groups of cases without a definite history of rheumatism, dysentery or tuberculosis. Further, it was found on careful examination that some of them had tender shins, painful muscles, and even enlargement of the spleen.

The parallel was now too striking not to invite fresh labours. The Army Medical Department, always alive to the importance of scientific work, afforded encouragement, and bacteriological and other work was begun on trench fever forthwith. Major Byam gathered about him a group of workers, Captains V. E. Sorapure, Lyn, Dimond, J. H. Churchill and R. M. Wilson, and special wards were set aside for the study of the disease.

The first matter to be dealt with was the exceedingly severe pain in the shins of which the victims complained. It was observed that this shin pain occurred in both legs equally. From this the deduction was made that the pain could not be due to any local condition in the shin but was most probably due to some irritation occurring in the spinal cord and so making itself felt by way of the nerves running from the spinal cord to the legs.

This view received dramatic confirmation when a small quantity of fluid was drawn off from the spinal cord of one of the most severely afflicted of the patients and his pain was removed almost immediately. Unhappily the value of the discovery was to a large extent discounted by the fact that if the patient got a relapse of his trench fever he usually got a return of his shin pains with it.

A long and careful study of the disease was now made which carried the work into the

late autumn of 1917. On the whole few, if any, new facts were discovered, beyond the one great fact that the victims of chronic trench fever were many in number and that they tended to suffer from neurasthenia (nerve weariness) and in some cases from symptoms of soldiers' heart. Attempts to find the parasite of the disease had all failed, several

PORTABLE DISINFESTOR.

sharp disappointments being encountered; attempts to discover any cure for it had also failed, though it was evident that some cases got well of themselves, apparently fighting down the infection in their blood.

By this time the toll taken by the disease was assuming large proportions and becoming a serious matter, though, so far, no one had ever been known to die of it. Accordingly, the War Office appointed an official Trench Fever Committee. This Committee consisted of Sir David Bruce, whose record of work in connexion with Malta fever and sleeping sickness entitled him to the respect of the whole medical world (chairman), Colonel Herbert French, Colonel G. Harvey, the late Professor Plimmer, Sir Walter Fletcher, Dr. Arkwright, Mr. Bacot and others, with Major Byam as chief executive officer in charge of the work at Hampstead, and Lieut. Hird as secretary. The hospital at Hampstead was under the command of Lt.-Colonel T. S. Allan.

A second committee was formed to work in France. The French Committee co-operated with the American Army Medical Service. Captain John Carroll of the American Army was added to the strength of the party working under Major Byam at Hampstead.

All other methods of studying the disease having failed, it was now determined to invite the services of volunteers willing to be infected with trench fever for the benefit of their fellow countrymen on the battle front.

The demand made met with an immediate response, and a number of old men willingly placed their services at the disposal of the committee. Their action was, in the best sense of the word, patriotic, for while danger to life could be excluded definitely, a certain

[*Swaine.*

SURGEON-GENERAL SIR DAVID BRUCE, C.B., I.M.S.,
Commandant, Royal Army Medical College.

amount of pain and sickness was inevitable. This was clearly explained to the volunteers; and it is to their great credit that not one of them was turned back from his original intention by the knowledge.

The volunteers having been secured, it was determined, as a preliminary measure, to repeat the experiment carried out by McNee and his co-workers in France. For this purpose some blood was taken from a patient with trench fever, and was injected into one of the healthy volunteers. The result fully confirmed the earlier work. The volunteer took the disease just as McNee's volunteer had done.

This placed the possibility of transmission by blood transference beyond any possibility of doubt, and also made it absolutely certain that the germ of the disease was present in the blood-stream of the affected persons

The next step was to test the theory of transmission by lice. For this purpose it was necessary to obtain a stock of lice guaranteed to be free from contamination by any poison. Happily, the committee found in Mr. Bacot, of the Lister Institute, an entomologist who was able to supply their requirements. Mr. Bacot had made a prolonged study of lice, and possessed a clean stock of the parasite which he placed at disposal. Lieut. Peacock and, later, Lieut. Ll. Lloyd, in peace time entomologist to the Northern Rhodesian Government, joined Major Byam's party.

In the first instance lice were allowed to feed on trench fever patients for a considerable period of time, and were then allowed to feed on the healthy volunteers. These experiments were carried out in all sorts of ways and conditions, the lice in some cases being fed on the healthy man immediately after being fed on the trench fever victim, and in other cases kept for some hours before being put on the volunteers. But, vary the experiment as they would, the investigators achieved only negative results. Not a single case of trench fever resulted among the healthy men.

It was then resolved to extend the scope of the louse-biting experiments, and to imitate as far as possible the conditions prevailing at the front. With this end in view, a small room in the outbuildings of the hospital was selected and spread with a mattress in the manner of a "dug-out," and preparations made for housing a volunteer in it.

The volunteer, an old man, took up his quarters for the night in this artificial "dug-out," and no fewer than 250 lice, all fed previously on trench fever patients, were placed upon him. The night was spent in the "dug-out," and a very large number of louse bites were received. But no trench fever resulted. The experiment was repeated with other volunteers, and with an even larger number of lice. It was invariably negative.

It seemed then that the bites of lice did not, after all, cause trench fever. Once again this most difficult investigation appeared to have reached a *cul de sac*. However, it was determined to persevere along a somewhat different line and find out whether or not the fact of a man's having trench fever—that is to say, having a raised skin temperature—would tend to drive his lice away from him, and so spread them among his neighbours.

This experiment was conducted as follows:

into the "dug-out" were brought two volunteers. They slept side by side, clothed in pyjama suits. On to one of them a number of lice were put, the number being known. It was then ascertained at fixed intervals how many lice had passed from the one man to the other, and the numbers and times were noted.

This furnished the "control" experiment. Next, a volunteer suffering from trench fever in an acute form, was brought to the "dug-out" and laid side by side with a volunteer. Lice of known number were again liberated, and the times of migration counted. It was found that whereas in the normal control experiment few lice passed from the one man to the other, in the trench fever experiment large numbers of lice passed, and with great rapidity. In other words, the lice left the man with a hot skin to the danger of his neighbours.

Here, then, was a possible explanation of the rapid transmission of trench fever in sleeping quarters, for it had been noted in France that the disease tended to break out among what were described by one writer as "blanket-fellows." While one platoon was severely attacked, another platoon often escaped attack altogether As soon as a patient became infected and got a rise of temperature his lice would leave him. They would travel to his bedfellows and so spread the infection.

But the mystery of the means of infection

[*After Lloyd.*

LOUSE-BITTEN BACK,

Showing the bronze-coloured spots occasioned by the bites.

remained, for it seemed clear that if infection did not occur after upwards of 23,000 bites had been sustained by infected lice, transmission could scarcely be by the bites.

It was then recognized that the volunteers who had been subjected to biting experiments were all old men with the more or less dry skin of age—subjects, that is, less likely to suffer from irritation of the skin after being bitten. It was found that so far as could be seen they

VOLUNTEERS FOR EXPERIMENTAL INFECTION WITH TRENCH FEVER, AND THEIR NURSES.

had not scratched themselves, and they stated that the bites of the lice had occasioned them little or no inconvenience.

It was immediately evident that a possible key to the mystery had been discovered. A young man's skin is sensitive to a degree not usually met with in old age. A young man on being bitten by lice would almost certainly scratch himself at once. He would thus scratch in, or rub into the punctures made by the bites, any dirt the louse might have brought to his skin. An old man, not suffering in the same way, would not scratch or rub.

A new series of experiments was immediately begun. In the first instance the bodies of eleven lice which had been fed on trench fever patients were taken and were rubbed whole into the arm of a volunteer which had previously been lightly scratched with a needle.

At the end of about eight days this volunteer developed a typical attack of trench fever.

[*From Drawing in the Natural History Museum.*

THE HUMAN BODY LOUSE

As it appears in ordinary light, greatly magnified.

Next the excreta of infected lice were collected. (This was a dark brown dust found at the bottom of the boxes in which the lice are kept.) The excreta alone of some 576 infected lice were rubbed into a scratch in another volunteer's arm. In about eight days he was ill with the symptoms of the disease. Frequent repetitions of this experiment produced the same result.

An enormous stride had now been taken in the investigation of this disease. For the first time it was possible to say with certainty that trench fever was a louse-borne disease, that it was not conveyed by the bites of the lice alone (though these might serve to puncture the skin for the reception of the poison) but that it was contained in the excreta of the lice and was transmitted in them to the victim's blood.

The work of the Anglo-American Committee

[*Micro-photo by F. Martin Duncan, F.R.M.S.*

EARLY LARVAL STAGE OF HUMAN BODY LOUSE.

in France which had been carried out synchronously with the work at Hampstead, threw a valuable light on that work. This Committee obtained through the American authorities a large number of soldier volunteers, young men. It carried out a number of lice-biting experiments and obtained experimental infections in a proportion of these. The conclusion was reached that the bites conveyed the disease. It was pointed out, however, by the Hampstead workers that the Committee in France was dealing with young men and that those would almost certainly rub and scratch. Moreover, only a proportion of the attempts to infect proved successful, whereas when louse excreta were rubbed into the arm all the attempts to infect proved successful. The old men who did not scratch or rub were never, in any instance, infected by bites. The point might seem to be rather an academic one at first sight. But, as will be apparent immediately, this was really very far from being the case. It was of vital importance.

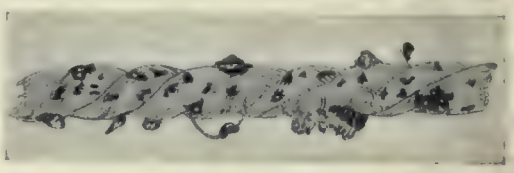
Having now proved the infective character

of the louse excreta, the Hampstead workers turned their attention to the question whether or not the germ of the disease underwent any change in the body of the louse, that is to say whether or not a life-cycle, like the life-cycle of the malarial parasite in the mosquito, occurred in the louse's intestine. In order to answer this point a series of volunteers were taken; a number of clean lice were also taken. The lice were fed on a trench fever patient for a day and then the excreta collected and inoculated immediately into Volunteer No. 1 The lice from the second day of the experiment fed only on a healthy man until they died. The excreta of the second day after feeding were inoculated into Volunteer No. 2. In the case of Volunteer No. 3 the excreta of the third day after feeding were inoculated and so on up to the twelfth day.

It was then found that in no case did excreta collected before the fifth day after feeding on a trench fever patient convey the disease to a volunteer. Excreta collected from the sixth to the eighth day might or might not convey the disease. As shown by a series of such experiments, excreta collected after the eighth day invariably conveyed the disease.

It was thus evident that during about a week after it had fed on a trench fever case a louse remained incapable of spreading trench fever. After a week its excreta became infective and remained infective. The presumption was that some kind of life-cycle of the parasite took place in the body of the louse, or that a period was required for its multiplication.

Moreover, that the excreta and not the bites transmitted the disease seemed more probable



[*After Lloyd.*

EXCRETA OF LICE ON A THREAD OF COTTON, MAGNIFIED.

still when it was realized that the excreta did not become infective for a week. For the Committee working in France had given the "period of incubation" of their successful transmission experiments as from 14 to 31 days. If from five to nine days (the time taken to make the excreta of a louse infective after the louse fed on a trench fever patient) were subtracted from 14 to 18 days, nine days remained—the exact period which elapsed between the time when a volunteer was inoculated with infected excreta and the time when his attack of trench fever began, the longer incubation periods, above 18 days, being accounted for by delay in rubbing in the

[*Micro-photo. by F. Martin Duncan, F.R.M.S.*

MALE HUMAN BODY LOUSE.

[*Micro-photo. by F. Martin Duncan, F.R.M.S.*

FEMALE HUMAN BODY LOUSE.

excreta by the less irritated men. In other words the presumption was that the lice used by the Committee in France did not begin to be infective for about a week after biting experiments were begun. By that time many bites had taken place. The volunteer was

[*Micro-photo. by F. Martin Duncan, F.R.M.S.*
HUMAN HEAD-LOUSE.

thus in a suitable state to have some poisoned excreta worked into his skin through the bites.

Having now incriminated the louse and the excreta of the louse, the investigators turned their attention to the question of the destruction of lice and excreta. So far as the lice themselves were concerned a good deal of knowledge was available and it was generally agreed that dry heat of 55° C. was sufficient to kill all lice and their eggs in clothing. Had the lice constituted the whole of the problem this would have more or less ended the matter. But it was by now abundantly clear that the lice did not in themselves constitute the whole of the problem. The louse excreta was the important point. To the question, is 55° C. dry heat a sufficient means of destroying the virulence of the louse excreta, an answer had to be found forthwith.

A new series of experiments was embarked upon. Excreta exposed to direct sunlight were inoculated and found to be highly virulent; excreta dried for 16 days were used and were also found to be virulent; finally excreta heated dry to 55° C. were inoculated. They also were highly virulent.

It became immediately apparent that dry heat sufficient to kill lice was powerless to kill the virus in excreta, and that consequently the methods in vogue to disinfest the troops could not cope with the spread of trench fever. Garments on which lice had been present were full of the "louse dust"; this dust would remain as actively poisonous after heating as it had been before heating. The new wearer of the garments would be liable to infect himself at once so soon as he scratched any part of his skin. And thereupon his lice—for lice abounded everywhere—would become infected and so spread the disease again.

So that what might have been mistaken for an academic point—the question whether the louse bite or the louse excreta conveyed the disease—was seen to be a point of vital moment upon which success in dealing with and preventing the disease must depend. Merely to destroy the lice in infested garments was not enough. The poisoned excreta must also be destroyed at least for so long a time as the general infestation of the troops in the trenches continued.

It was, therefore, sought to determine what degree of heat was sufficient to destroy the virulence of the excreta. It appeared very probable that even dry heat of 80° C. failed to prevent excreta subjected to it from infecting volunteers. This was the degree of heat usually applied in the disinfesting stations—a degree which had hitherto been looked upon as allowing a wide margin of safety, since at 55° C. lice and their eggs were known to perish.

Thus the whole question of anti-louse measures was re-opened. It was recognized on the one hand that much more energetic measures against the lice themselves were called for, and on the other hand that different methods of treating the excreta-infested garments must be devised. A large number of workers began to devote themselves to the solution of these problems; efforts were made to find preparations which would render clothes dipped in them inimical to lice; other efforts were made to discover means of destroying the virulence of the excreta; finally, though the most vigorous efforts had been made already to acquaint medical officers, combatant officers and soldiers with the dangers accruing from lice and to urge upon those the necessity of endeavours to keep themselves free of the parasites, a further campaign of enlightenment was undertaken. Already by the summer of 1918 these efforts were beginning to bear fruit and to justify the immense amount of labour ex-

pended on the scientific elucidation of the disease.

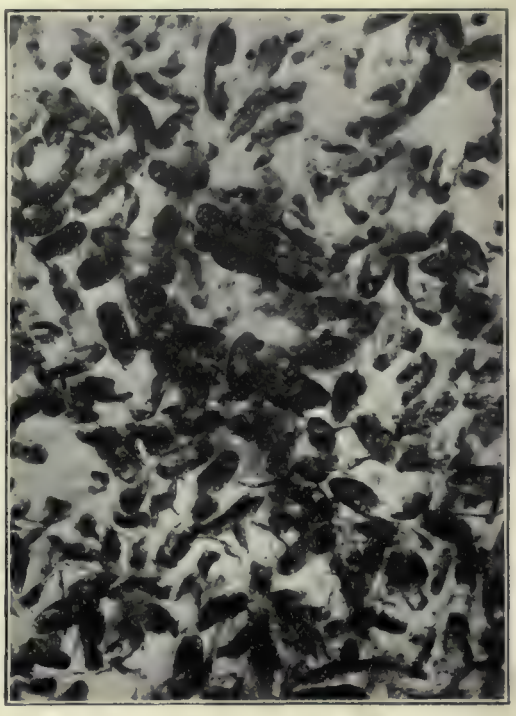
Meanwhile the workers at Hampstead returned to the search for the actual parasite of the disease. The number of trench fever cases was known to be very large. Unless the parasite could be found and isolated the hope of obtaining an effective treatment seemed slight. The great difficulty was that the germ seemed to be so small as to come within the term "ultra-microscopic," that is, too small to be seen by even the highest power lenses. Very many efforts had been made to find it in the patients' blood. All these efforts had failed.

At this point it was decided to change the sphere of investigation, and instead of searching the blood search the excreta of the louse. The result was that certain very small bodies were detected by Dr. Arkwright in the excreta of lice known to be affected by the disease, but were not detected in those of ordinary lice. Experiments carried out subsequently showed that the excreta of lice containing these bodies infected volunteers, while the excreta in which these bodies were not seen did not infect them, whether the lice from which the excreta had been obtained had fed on healthy men or even trench fever patients. These forms Arkwright recognized to be of the same kind as the Rickettsia bodies which had been known for some years in lice infected with typhus fever and recently had also been observed on the Continent in lice from cases of trench fever. The importance of Rickettsia bodies in these diseases had, however, been largely discredited, because they were apparently confused with accidentally occurring bacteria and with granular *débris* in the stomach of the louse, and because they had been stated to occur in lice from healthy persons.

This discovery was made in the autumn of 1918, and efforts were at once begun to use it in devising a line of treatment. Meanwhile, treatment was being sought for in other directions, and a sub-committee, consisting of Major Byam, Captain Sorapure and Dr. C. H. Browning, Director of the Bland Sutton Institute of Pathology, Middlesex Hospital, had been formed. It was hoped to discover a drug which should exert a specific and definite effect on the trench fever poison similar to the effect exercised by the drug salvarsan ("606") on the spirochæte of syphilis.

A large number of the aniline drugs were tested for this purpose, but, though improvement was observed in a few cases, it could not be said that any real "cure" was obtained. Other drugs were given an extended trial with, unhappily, the same negative results.

Some success had, however, been achieved in the handling of the more chronic forms of the disease. It has already been stated that trench fever was found to be a prolific cause of soldiers' heart and of some forms of neurasthenia. Careful efforts were made to investigate the exact effects of the trench fever



PORTION OF A LOUSE-INFESTED GARMENT (magnified).

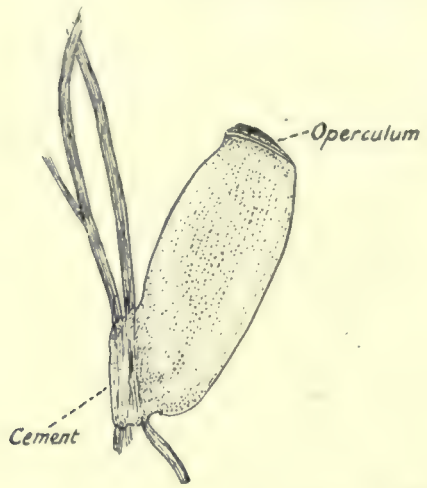
poison on the heart and on the nervous system.

It was found that when a man became infected with this poison he tended to become giddy and to show symptoms known as "depressor symptoms, or vagal symptoms." Now, the heart is controlled by two sets of nerves, those which slow the beating of the organ and those which quicken it. Moreover, the slowing nerves (called Vagus) also tend to cause blood to flow into the abdominal vessels, and so to be removed from the brain. In depressor states, such as ordinary fainting fits, the brain is temporarily deprived of blood because the blood has gravitated into the wide-open abdominal vessels.

The idea occurred to the investigator

dealing with this branch of the subject—notably, Captain John H. Carroll, of the United States Army and Captain R. M. Wilson—that possibly the trench fever poison exercised a specific effect on the depressor portion of the nervous system. Tests were therefore devised to put this matter to the proof.

It was found that certain phenomena were present in the trench fever patients which pointed directly to an over-excitability of the depressor nerves. These phenomena were not



[After Lloyd.

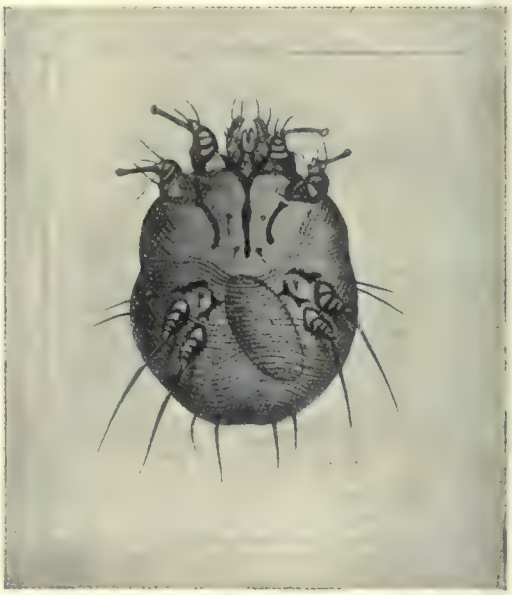
EGG OF A LOUSE,
Showing attachment to threads of cotton.

met with in healthy subjects. Moreover, the drug atropine, which lowers the excitability of the depressor nervous system, was found to remove temporarily the ill effects.

The discovery of this fact led the workers to a further observation. It was evident that, if the slowing nerves of the heart became unduly excitable, the nerves quickening this organ would require to overact also in order to restore the balance, just as it is necessary to put additional weight upon one pan of a pair of scales if additional weight is added to the other pan. That meant that there must be a constant drain of "strength" in trench fever cases, because it is upon the quickening nerves of the heart that a man is forced to rely for the efforts he makes in the course of his life.

There then was an explanation of the exhaustion met with in many of the chronic cases, and also of the neurasthenia or "nerve weariness," which was so frequently complained of. The question arose in what way that "compensation" of the irritable slowing nervous system by the quickening nervous system could be assisted

It was known, thanks to the work of the brilliant American School, with which the name of Professor Canon is associated, that the thyroid gland, a large gland situated in the neck of all warm-blooded animals, normally supplies to the blood a substance aiding the work of the quickening part of the nervous system, so far, at any rate, as that part of the nervous system raises blood pressure. It was probable then that a severe strain was being placed on this gland, and the idea arose of helping the patient by administering a preparation of the gland to him. Thanks to the work of Murray, of Newcastle, and others, thyroid gland preparations were well known to medicine, and easily obtainable.



[After Canestrini.

THE ITCH MITE.
Sarcoptes scabiei, magnified 100 diameters.

The results of this treatment fully justified the work expended upon it It was found that patients exhibited a remarkable "tolerance" to thyroid—that is to say, they were able to take large doses of it without showing any of the symptoms met with when large doses had been given to normal people. And they gained strength and, in many instances, were able to perform work which had hitherto been difficult or impossible.

Nevertheless, thyroid treatment belonged only to the "palliative" order of therapeutics. It was not a cure of the disease. It merely helped the patient to withstand his disease better, and so to be efficient in spite of it. The cure of trench fever in the true sense remained,

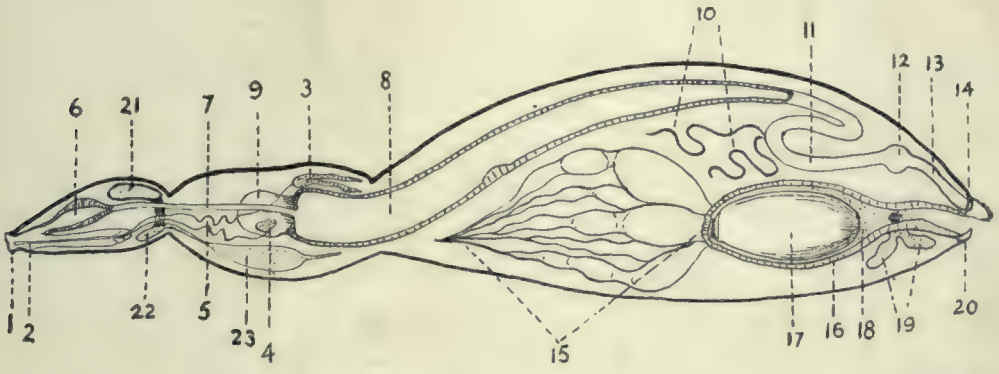
up till the autumn of 1918, undiscovered, though strenuous efforts were being made to find it.

As in the case of malaria and plague, then, the essential links in the chain of trench fever were discovered. They consisted of the human reservoirs of the disease, the lice which became infected from these reservoirs, and the excreta of the lice, capable of being blown about by the wind and of finding a lodgment in garments, bedding and other material. It was clear that to attempt to segregate all the human reservoirs was impossible because the disease was too widespread and too mild in its preliminary stages. The difficulty of dealing with the excreta was also great, though means were

This view led at once to an increase in the interest taken in another of the insect pests of war, the *acarid* or parasite of itch (scabies). Manifestly, if a man became infested with itch he would scratch himself, no matter what regulations against scratching might exist. Each scratch became a potential inoculation with trench fever.

So true indeed was this, that it was found that cases of itch previously contracted showed a higher rate of trench fever infection than any other cases. To contract itch, indeed, on the Western front was tantamount to getting trench fever as well.

Happily, the War Office had long before this time set in motion an active campaign



[*After Lloyd.*

DIAGRAM OF THE INTERNAL STRUCTURE OF A FEMALE BODY-LOUSE.

Alimentary System.—1. The haustellum, the teeth of which grip the skin during feeding. 2. The stabbing organ which wounds the skin. 3,4. The salivary glands, and 5, their ducts which carry the salivary secretion to the stabber and so into the wound, preventing the clotting of the blood. 6. The sucking pharynx, which pumps blood from the wound. 7. The œsophagus, which carries the blood into 8, the fore gut, where it is stored and digested. 9. Right storage chamber of fore gut. 10. The malpighian tubules, excretory organs. 11, 12, 13, Hind gut and rectum. 14. The anus.

Reproductive System.—15. The right ovary, containing developing eggs. 16. The oviduct in which the fully developed egg (17) receives the mass of cement (18) secreted by the glands (19), which fixes it to hair or cloth. 20. The right gonopod, the pair of which grip the material on which the egg is being laid and thus orientate it.

Nervous System.—21. The brain, connected by a ring of nerve with the sub-œsophageal ganglion (22), which is connected with the thoracic ganglion (23), from which nerves run to the legs and abdomen.

being sought for to achieve this. The real battle was with the lice.

To destroy lice, however, in the middle of a great campaign was admittedly no easy operation. The movements of armies during 1918 were sudden and dramatic. Tremendous events were in course of development; the attention of all was fully occupied with the military situation. In these circumstances some more immediate method of handling the situation seemed to be called for.

A hint in the direction that possibly offered hope was furnished by the Hampstead researches. If the men could be prevented from scratching the skin, and so inoculating themselves with the poisonous and ubiquitous lice-excreta, a sensible diminution in the number of cases of trench fever might be expected.

against the itch mite. Careful investigations had been made and general lines of conduct designed to free the Army of the pest laid down.

The itch mite burrows under the skin of its victim, keeping near the surface of the skin. The female is the offender, and she lays her eggs in clumps under the skin. The young then continue the process until the whole skin of the body is infested.

It was ordered that cases of itch on being recognised should be segregated with the least possible delay, and subjected to the most rigorous isolation until cure had been accomplished, and that all clothes which might contain infection were to be treated in a thorough manner so that danger of conveying the infection to others might be avoided. By these means the spread of itch was controlled in

large measure, and a most fruitful soil for trench fever infection rendered unfruitful.

Meanwhile, another and much more terrible disease than trench fever threatened from the activities of the louse—typhus fever. It had been known before the war that typhus fever was a louse-borne disease, but the fever was largely confined to endemic areas, and the vast majority of the members of the medical profession had never seen a case of it. The old name of the fever, "Gaol or Prison Fever," suggested the kind of localities where it was met with—places filthy and uncleansed, places where lice and other vermin were likely to collect. But the cleaning of the prisons, and the placing of cities under proper sanitary supervision, caused typhus fever to dwindle, in England at any rate, to vanishing point. It came to be looked upon as a relic of the Dark Ages, a disease that had been defeated and was unlikely ever again to threaten mankind in epidemic form.

What was not recognized was that the disease, though controlled, remained as virulent as ever, and only awaited its proper means of transmission to blaze up into full activity. Given the relaxation of sanitary control with an increase in the louse-population and the presence of some human reservoirs of the disease, an epidemic remained a certainty.

And so it happened in Serbia. This heroic people inhabited a country in which typhus fever was known to be endemic in certain areas. That is to say, there were always cropping up from time to time a few cases of the disease. Measures of prevention, however, held the scourge in check and it did not assume formidable proportions.

The Serbians repelled three separate attacks by the Austrians, fighting with a desperate valour which has won them the admiration of all men. But this tremendous drain on the resources of the country was bound in the end to disorganize every civilian agency. The sanitary control of the country, such as it was, broke down, as it was bound to break down.

The means of salvation, cleansing and supervision, failed. The population was mingled together, the wounded filled all the available hospital space. Lice multiplied, and cases of typhus began to multiply with them. The epidemic had begun.

With what violence and rapidity the epidemic spread should serve as a lesson to mankind in no circumstances to treat insect pests as a lesser horror of war. The death rate was terrible. There was no adequate means of nursing; there was no adequate means of getting rid of the sources of infection. Plague-stricken in the fullest sense of that term, Serbia suffered all the horrors which we associate with the Middle Ages; she lay, when the first fury of the attack had passed, at the mercy of her enemies.

The heroic people who went out to the help of this unhappy country did much to mitigate the sufferings of the population, but lacking methods of disinfestation on a great scale they could not secure the full value of their efforts. The plague had to burn itself out.

There is no specific treatment for typhus fever, and what that means is that when prevention failed all the buttresses against the disease failed also. As there was some reason to suppose that the excreta of lice convey typhus just as they were shown to convey trench fever the rapidity of the spread of the epidemic can be understood. The very winds must have carried it in the louse-dust. And wherever it went there were more lice to act as new distributing centres and set new attacks going.

The insect pests of war, then, constituted a danger as great as the enemy himself, and a danger against which the most unsleeping vigilance was required. Only by scientific work of the most advanced kind could that danger be met. The scientist was every whit as important to the army as its discipline, its munitions of war, or its commissariat. And just as the soldier by his efforts builded the foundation of future liberty and peace so did the scientist build the foundations of future health.

One of the greatest of these foundations was recognition of the fact that "cure" in the sense of complete emancipation from a disease once contracted was at best a very problematical thing. The malarial epidemics of the war, for example, led those who devoted time to their study to the reluctant conclusion that in very many instances complete cure of malaria was not achieved even by the most thorough quinine treatment. The cases tended to recur; they were apt to reach a stage at which quinine no longer exerted its full effect; health in the most complete sense of that term was lost.

And if this was true in the case of malaria

against which a drug usually regarded as a "specific" was available, how much more true would it be in regard to diseases for which no "specific" drug had been discovered. It came to be realized that infectious disease was often not merely a temporary disaster but a permanent catastrophe. So-called recovery was achieved, in some cases at any rate, not by the complete destruction of the disease in the patient's blood, but by the continued activity of the blood against the disease—by overwork of the blood, if the term may be used.

This possibility first presented itself when it was found that syphilis could be contracted anew when thorough treatment by "606" had been administered. Up to that moment it had been supposed that "one attack of syphilis conferred immunity," or, in other words, that once the attack had been recovered from the body remained permanently hostile to any other attack. The new knowledge suggested the idea that possibly the first attack had not been recovered from: that the germ of the disease was only being held in check by strenuous efforts. And this view received confirmation from the fact that, in later life, when strength might be expected to be flagging, so-called tertiary symptoms often showed themselves.

A more popular illustration would be the smoker who while he smokes continually up to his usual allowance experiences no inconvenience. If, however, he stops smoking for some time and then resumes, his usual allowance will be apt to make him very unwell. He will suffer from tobacco poisoning. In other words his "tolerance" for tobacco exists only so long as his use of tobacco continues. Relaxation in the use of tobacco means at once relaxation of tolerance.

Applied to disease this view amounted to a new conception. It was seen that even diseases like scarlet fever might, once they had been contracted and "recovered" from, make continual demands on their victim, who in order to hold them in abeyance must exert strength against them, thus depleting his native resources. The work at various special hospitals confirmed this view in many directions, for it was found that men of a weak and feeble type had usually suffered from severe infectious diseases in early life, had been unable to play games at school and had generally lived within restricted limits. In the case of trench fever one of the most striking facts elicited by the clinical study of the disease was that those who showed in greatest degree evil after-effects were men who had been unwell in the other conditions and whose standard of health before infection with trench fever had been low.

This body of knowledge afforded a new conception of the diseases of middle age,

IN TYPHUS-STRICKEN SERBIA: PATIENTS IN A BRITISH HOSPITAL IN NORTHERN SERBIA.

diseases already in a vague way connected with earlier infectious attacks. It was seen that as the natural powers of the body tended to decline the unequal struggle with diseases which remained in the system must tend to be decided in favour of the diseases. As a result various breakdowns would be liable to occur.

The vast importance of this could not be missed at a moment when the country relied, as at no previous period, on the exertions of its middle-aged population. These men with their accumulated stores of experience constituted a large national asset. The ravages of chronic disease were seen in their true light as a catastrophe.

And then came the knowledge that prevention was not only better than cure, but the only remedy in which trust could be reposed. Cure except where specific drugs like "606" and quinine existed was at best very doubtful. And even "606" and quinine had their signal failures. Prevention offered absolute safety. The nation began to wake up to the knowledge that at home scarlet fever, measles, rheumatic fever, whooping cough and a host of other conditions remained complete mysteries. No one knew how they were caused, or how propagated, or whether insect pests played any part in their distribution. No treatment affected them. It was seen that a deadly danger to the community remained almost unrecognized and certainly uncontrolled.

There came, as has been pointed out in an earlier chapter of this history, a national awakening as widespread as it was sudden. Two great new ideas inspired the popular mind, the first that medical research must be made a business of the nation and must be pursued by every means until the ways of disease were known; the second that such disease as could not be prevented must be attacked and treated seriously at the earliest possible moment —that is to say, in the vast majority of cases, in childhood.

It was seen that medicine no longer concerned only the doctor. It concerned just as vitally the entomologist, the student of insect life and insect ways, the man who until shortly before the war was often assailed by cheap jibes and sneers. To the entomologist belonged the right to trace the course of disease in its winged and creeping carriers, to him also belonged the credit of discoveries the value of which

PYRE FOR BURNING THE CLOTHES OF ENEMY DEAD
For the prevention of possible infection.

could not be assessed. It is no exaggeration to say that had Sir David Bruce and Major Byam not made special efforts to obtain entomological help in their trench fever work, at first in the person of Lieutenant Peacock and later in that of Lieutenant Lloyd, upon whom the bulk of the work fell and to whom therefore great credit is due, the remarkable progress of the work could not have been achieved. Happily Sir David Bruce stood in the very front rank of those great men of science who have rid the world of infectious disease by preventing it, and the necessity of entomological help was ever present to his mind. Major Byam, too, had returned to England from Egypt after a distinguished career in the Egyptian Army in constant warfare with disease.

These investigators brought to the study of a European disease the methods of tropical medicine and this for the first time. The results more than justified the departure. They stultified, indeed, the older methods of dealing with these matters. And they made absolutely imperative a change in our methods of work at home.

But the entomologist was not the only man of science whose services were essential to the new campaign against disease. Not less essential were the services of the sanitary engineer. The problem of malaria is essentially a problem of drainage. Upon the efficiency of the work of the sanitary engineer depended the health of our armies in places like the Struma Valley, because on his labours the destruction of *Anopheles* mosquitos hinged. Again, the war against rats is largely a sanitary matter depending on the proper construction of drains and the efficient disposal of refuse. The scourge of plague also must be combated by this supremely important worker. Finally, the cleansing of our cities, the introduction of good lighting, of good ventilation, of efficient and sufficient bathing facilities, all tend to the banishing of lice and so to the lightening of the threat of louse-borne epidemics.

Before the war the sanitary engineer was scarcely taken into account; the medical profession at home, outside the Public Health Service, seemed to be quite uninstructed in the vital importance of sanitary work. What in the tropics was regarded as of supreme moment was looked upon generally in England as an interesting departure.

The nation owed a great debt of gratitude to the Army Medical Service and to the brilliant staffs of workers acting under its direction for the enlightenment won and the knowledge disseminated. And that the nation was not insensible of its debt was shown by a remarkable report issued in 1918 by Sir George

[*Canadian War Records.*

INCINERATOR.

Newman, Chief Medical Officer to the Board of Education, on the Future of Medical Education in England. In that report Sir George called attention to the new era which had been begun by the war and to the new demands that era must make. He pointed out that medicine had become less an affair of the individual and more an affair of the State, that not the cure of disease but the preservation of health was the real issue at stake.

In this respect the lack of training in preventive medicine was deplorable. It was equally important that a doctor should understand the value of preventive measures as that he should understand the diagnosis of disease or the methods of treatment in vogue at the moment. The basis of medical education must be broadened, the range of knowledge acquired widened to embrace new subjects of study. The doctor must be prepared to live less to himself and more to the community at large.

This report, and the fact is full of significance, received an enthusiastic welcome by the whole Press of the country. The welcome

was made the occasion too, in some directions, of a demand for research work into our home diseases. The beneficial activities of the Medical Research Committee under the able direction of Sir Walter Fletcher and of the Lister Institute under Sir David Bruce and Dr. Martin were recognized, and the hope was expressed that these agencies might prove instrumental in initiating a great new campaign on behalf not only of the children but of the adult population.

Thus the campaign against the insect pests of war broadened into a campaign destined to be carried on against the insect pests of civilian life and, yet more broadly, against the whole citadel of disease.

A MOTOR-BOAT LABORATORY ON THE TIGRIS.

CHAPTER CCLVI.

THE REDEMPTION OF MESOPOTAMIA.

EVENTS IN MESOPOTAMIA, MARCH, 1917–SEPTEMBER, 1918, AND THEIR CONNEXION WITH THE ARAB MOVEMENT—TURKISH RETREAT FROM PERSIA—JUNCTION OF RUSSIANS AND BRITISH—CAPTURE OF SAMARRA—BRITISH IN SUMMER QUARTERS—THE VICTORY AT RAMADIE—EFFECT OF GENERAL ALLENBY'S SUCCESSES IN PALESTINE—JEBEL HAMRIN AND TEKRIT OPERATIONS—DEATH OF SIR STANLEY MAUDE—GENERAL MARSHALL COMMANDER-IN-CHIEF—SAKALTUTAN PASS SEIZED—KHAN BAGHDADIE BATTLE—PURSUIT OF TURKS UP THE ALEPPO ROAD—THE MOSUL ROAD DASH—ROUTE THROUGH PERSIA OPENED—NEW TURCO-GERMAN DESIGNS—WORK OF THE CIVIL ADMINISTRATION—PROSPERITY RETURNS TO BAGHDAD—THE NEW ORDER ON THE TIGRIS—SIR PERCY COX VISITS KERBELA AND NEJEF—THE MURDER OF CAPTAIN MARSHALL—EUPHRATES TRIBES PACIFIED—RESTORING THE GARDEN OF EDEN—HINDIAH BARRAGE OPENED—RELATIONS WITH CENTRAL ARABIA AND THE SYRIAN BEDOUIN—THE STRUGGLE BETWEEN THE EMIRS OF RIADH AND HAIL—IBN SAUD AND THE SHERIF OF MECCA ALLIED—BRITISH TROOPS IN THE HEDJAZ—TURKS FEAR FOR SYRIA—INTERDEPENDENCE OF PALESTINE AND MESOPOTAMIA OPERATIONS—ATTITUDE OF THE BEDOUIN OF THE SYRIAN DESERT.

AFTER the capture of Baghdad (Chapter CCI, Vol. XIII) by Sir Stanley Maude in March, 1917, the Expeditionary Force had still much to do to make the British position in Lower Mesopotamia secure. It had, further, to open, and keep open, communications with north-west Persia, besides giving such indirect support as was possible to the anti-Turkish movement in Arabia. Direct co-operation with the Egyptian Expeditionary Force and with the armies of the King of the Hedjaz and other Arab rulers depended upon the development of the campaign in Palestine. Operations carried out by Sir Stanley Maude in March–May, 1917, on the Dialah (Persian) front and up the Tigris to Samarra placed Baghdad out of immediate danger from counter-attack, and the British hold on the Euphrates, in its middle-lower course, was definitely established by the capture of Ramadie in September, 1917. The Turks, under German inspiration, had elaborated plans for the recovery of Baghdad, but these plans, shaken by the continued success of the British operations in Mesopotamia itself, were completely upset in the autumn of 1917 by Sir Edmund Allenby's campaign in Southern Palestine. As a result of the piercing of the Beersheba-Gaza front the two German divisions brought to Aleppo with a view to operations in Mesopotamia were diverted to Palestine by General von Falkenhayn, then German military adviser to the Turks in Asia. This change of direction was decided upon immediately after the fall of Gaza (November 7, 1917); two days previously the garrison at Tekrit, the enemy advanced post on the

Tigris below Mosul and the probable starting point for the contemplated operations against Baghdad, had been completely defeated by part of General Maude's force. On the 19th of the same month Sir Stanley Maude died at Baghdad, a victim of cholera. He was succeeded by one of his ablest lieutenants, General Sir W. R. Marshall, who continued his late chief's policy of the offensive-defensive. In March, 1918, by a sharp and sudden blow delivered from Ramadie, he inflicted heavy losses on the Turks and drove them headlong up the Euphrates on the Aleppo road; a little later, in a similar operation east of Baghdad, General Marshall sent the enemy back in confusion on the road to Mosul. This second advance also secured for the British complete control of the western end of the great highway from the Mesopotamian plain across the mountains by Kermanshah and Hamadan to Teheran, the route by which, for a brief period (April–June, 1917), the Russians in Persia had linked up with the British force. The control of this highway enabled a British column from Baghdad in the summer of 1918 to cross Persia to the Caspian, and thus in part parry the development of Turco-German policy rendered possible by the collapse of Russia—the advance eastward through Transcaucasia.

Not less important than the military operations was the work of administration carried out by the Civil Commissioner, Sir Percy Cox, and his assistants. Not only had order to be

MESOPOTAMIA.

maintained, but in accord with the public pledges given by Sir Stanley Maude on behalf of the British and Allied Governments the officials had to seek the help of the "nobles and elders and representatives" in the management of their civil affairs, so that the Arabs might be "united with [their] kinsmen in the north, south, east and west in realizing the aspirations of [their] race." Centuries of tyrannous misgovernment and the Ottoman policy of sowing dissension between one Arab tribe and its neighbours, combined with the almost complete economic ruin of the country, had, however, rendered most of the riverain Arabs highly suspicious and hostile to any kind of control. In the early phases of the campaign Arabs had both aided and opposed the British; they had, in search of loot, indifferently harried small Turkish and British columns and stragglers, and even after the fall of Baghdad various tribes gave trouble. While, however, marauding bands were firmly chastised, every consideration was shown for the wishes of the peacefully disposed, and the officials, military and civil alike, in a period which was measurable by months, won the confidence of the majority of the inhabitants, including the important Shi'ite community at Kerbela and Nejef. Freed from the merciless severity of the Ottomans, assured of safety to life and property, supplied with water to irrigate their lands, provided with railways and improved river transport, reaping the advantages of medical care and sanitation, the country people as well as the merchants and traders of the cities enjoyed a prosperity not experienced since the overthrow of the Abbasid Caliphs. At the same time, on their southern and western borders the people witnessed the steady withering of Ottoman power and prestige. On the Arabian shores of the Persian Gulf they had disappeared; the Bedouin of the Syrian Desert were almost all against the Turks; in Central Arabia Ibn Rashid, the young Emir of Hail, alone supported the Ottomans, while from Riadh the Beni Saud ("Wahib's rebel brood"), firm allies of Britain, had conquered the greater part of Nejd. The Emir Abdul Aziz ibn Saud of Riadh was helped in his campaign against the Emir of Hail by the Hedjaz Arabs, and they in turn aided and were aided by the British in Palestine (Chapter CCXLVIII, Vol. XVII). So that not only was Lower Mesopotamia firmly held by the British and communication established through Persia with the Caspian, but there was, in effect, in the latter half of 1918, an Allied front stretching from the Mediterranean to the Persian Gulf.

THE SACRED CITY OF NEJEF

The Mesopotamia campaign of 1916-17, up to the capture of Baghdad, had followed the line of the Tigris. The river, apart from the railway built to serve the needs of the British, was the beginning and end of all traffic and movement from Baghdad to the Persian Gulf. It ran between wide stretches of swamp or desert, so that operations were confined to

A GROUP AT ZOBEIR.

the neighbourhood of its banks. Beyond Baghdad, however, the problem was different. The enemy retreated along divergent lines, which tended to become ever more distant from one another, yet for a considerable period the Turks were never so remote from Baghdad itself as to preclude the danger of a sudden descent on the city. The problem, in short, was that of making Baghdad secure, and that could not be done save by offensive measures. Baghdad was not a fortress capable of defence, nor would British prestige be served had the enemy been allowed to remain in the neighbourhood of the city.

The enemy was in three main directions; north-east of Baghdad along the Dialah up to and beyond the Persian frontier; north of Baghdad along the Tigris; and west of Baghdad on the Euphrates about Ramadie. The Turks' base was at Mosul in Upper Mesopotamia, whence they had free communication with Syria and Anatolia, and the use of the Baghdad railway as far as it was open. For the time being (March, 1917) all the enemy forces in Lower Mesopotamia were, as stated, in retreat before the victorious British. The arms of the Expeditionary Force were now, for the defence of Baghdad, spread out fanwise, as in the first winter's campaign from Basra, when Sir John Nixon sent his divisions east, north and west up the Karun, the Tigris, and the Euphrates. Baghdad was the advanced base, depending on Basra, just as in 1915 Basra was in a sense the advanced base, depending on India.

For the British force the capture of Baghdad did not mean even a pause in the operations. Part of the 18th Turkish Corps, or what remained of it after its defeat at Kut, was still struggling to extricate itself along the Tigris from the clutches of General Maude's advanced columns; while to the north-east it was imperative to try to intercept the 13th Turkish Corps, which was falling back from Persia along the Hamadan road before General Baratoff's Russians, and to prevent its junction with the 18th Corps. General Baratoff's small force, with varying fortune, had for a long while been fighting the Turks in North-West Persia, and in a previous chapter (CCI, vol. XIII) it was briefly mentioned that on April 2, 1917, a junction between the Cossacks and the British was effected at Kizil Robat, which is on the Dialah tributary of the Tigris, 70 miles north-east of Baghdad. The story of the Turks' headlong retreat along

the historic highway across the Persian border remains to be told.

The strategic results of the fall of Kut on February 24, 1917, had been immense and far-reaching. It caused stir and movement in all the Turkish armies in Asia. At once on the distant Persian front the Turks had begun to fall back from near Hamadan. General Baratoff gave chase, pressing hard on the heels of the enemy's rearguards, who fought many a desperate action while the bulk of the force fled through a wasted and inhospitable country towards Mesopotamia. On March 11, the day on which General Maude entered Baghdad, they had passed Kermanshah; about the 20th they reached the formidable Pai Tak Pass, where at last they were able to make a stand. In one sense the task of the Turkish commander was simple, for along the whole of this mountain road, winding between snow-clad ranges, no turning movement was possible. At the Pai Tak gorge, a strong fortified position enabled him to hold up General Baratoff for the best part of a fortnight. It is probable that his resistance in this stronghold could have been indefinitely prolonged, but he had to count with the danger to his rear; the British were advancing up the road towards Kasr-i-Shirin on the frontier, and, had he delayed too long, he would certainly have been cut off. On March 30, therefore, he fell back, the Russians pursuing, and on the 31st the Turks were at Kasr-i-Shirin.

It was a terribly depleted and exhausted army which had thus succeeded in effecting its escape. In peace time the country traversed is not ill-provided with supplies, for this is the pilgrim route to the sacred cities of Nejef and Kerbela, along which 50,000 pious Shi'ites (or Shiahs) pass annually and rely upon the villagers for food. But the country was now devastated by the passage of six armies in twelve months—Turks and Cossacks had followed one another repeatedly along this road, living on the country; and the population was scattered, villages derelict, and supplies not to be had. Mr. Edmund Candler, the correspondent of the British Press with the Mesopotamian Force, who afterwards met the first Russians who established touch with the British at Kizil Robat, learned from them some details of the Turks' terrible flight. All the way the road was littered with dead mules, horses and camels. The troops were reduced by typhus, most of them were barefooted, and thousands fell from exhaustion. At every vil-

[Official photograph.

A SQUARE IN KERMANSHAH. AUGUST. 1917.

lage new Turkish graves were seen ; 2,000 were counted at Kermanshah alone.

On the same day that the 13th Turkish Corps fell back through Kasr-i-Shirin General Maude's right wing had reached Deli Abbas, a little more than halfway from Baghdad to Kasr-i-Shirin. The British column had encountered considerable difficulties, owing to the number

[*Official photograph.*

INDIAN LANCERS LEAD THE ADVANCE ACROSS THE JEBEL HAMRIN.

of small rivers and canals, most of which had had to be bridged. On March 18 it had reached the prosperous town of Bakuba, on the Persian road ; on the 23rd it captured Shahroban, after lively fighting ; and on the 25th it was heavily engaged about the Jebel Hamrin range. Here the Turks were in an ideal position commanding the adjacent country, and they were in too great force for the British, only two brigades strong, to dislodge them. The battle was sanguinary, and the enemy only yielded their ground when the 13th Corps on the Persian border was safe. Viewing the Turkish operations on this flank as a whole it must be admitted that the leadership showed a high degree of skill, as, indeed, it had done during the equally difficult retreat from Kut to Baghdad. But though the British were unable to cut off the Turkish army retreating from Persia, they prevented it from effecting a direct junction with the 18th Corps in Mesopotamia and compelled it to retire from Kasr-i-Shirin by a more northerly route, so that its strength only became available for offensive purposes at a later date.

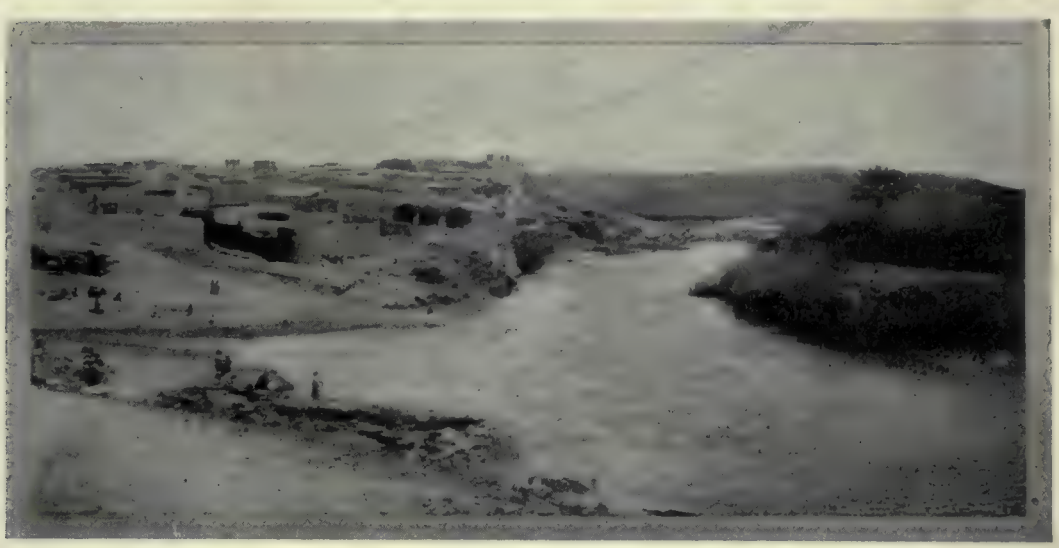
Although a junction between British and Russians was made on April 2 no continuous line was maintained. It was only a hurried meeting, and the single squadron of Cossacks left the same night. Neither force could stretch its line of communications far enough to keep up contact. The British column, however, remained long enough to see the Russians well established on the Dialah and was then withdrawn. This enabled General Maude to resume his operations along the Tigris. He was anxious to reach Samarra as early as pos-

[*Official photograph.*

INDIAN SAPPERS LAYING TELEPHONE CABLES IN A TRENCH.

sible, for two reasons. In the first place, it would give him control of the isolated 70-mile section of the Baghdad Railway, with its northern terminus at Samarra; in the second, it would enable him to avert the possible danger of inundations from the Tigris and Euphrates. The latter object was pressing, because the flood season was at hand. Every spring the Tigris deposits so much mud on its bed that in the course of centuries its level has been raised above the plain, and its waters are only contained in the flood season by the "bunds," or artificial embankments, about 3 ft. high. This feature of Lower Mesopotamia forms an interesting geographical study, and from the military point of view it was always a source of anxiety in the spring; for, had the bunds been cut, enormous tracts of country would have been flooded or turned into swamp. For this reason the district about Samarra is of peculiar strategic importance, as the land there for the first time rises well above the river level; so that whoever controls the Samarra district controls the waters of the Tigris below that point.

The Tigris troops, therefore, wasted no time in securing the country as far north as possible, and by the end of March, by a brilliant attack, had thrown the Turks across the Shatt-el-Adhaim, a left tributary about 30 miles from Samarra. They were then delayed by a development which had been partly anticipated. The 13th Turkish Corps from Persia, having succeeded in crossing the Dialah north of Kizil Robat, was free to adopt an offensive *rôle*. Part of it was brought down towards the Tigris and thrown against the British right flank in order to retard its advance. General Maude, however, so disposed his troops that an attack launched by Welsh and Wiltshire battalions was a complete surprise, and the enemy were once more flung back into the Jebel Hamrin range. Meanwhile, other troops had been pushing north along the railway from Baghdad, which is built on the right bank of the Tigris. They were within 12 miles of Samarra when they found the Turks posted in a formidable position about the ancient city of Istabulat. Three miles to the south the British had concentrated behind the ruins of the famous fortified line known to the Greeks as the Median Wall, around whose mud bastions in long-past ages every conquering race of the East has fought for mastery. On April 21 the British attacked in force, but the old, stubborn spirit of the Turk in defence asserted itself, and he showed on this day a more resolute opposition than had been seen since the fall of Kut. The British troops—Highlanders, English battalions, Gurkhas, Sikhs and Punjabis—flung themselves against the enemy's machine gunners with a dash and gallantry worthy of the best traditions of the Mesopotamian Army; they stormed one of the enemy's main redoubts, lost it, and again captured it. By nightfall they had won so much ground that the Turks were obliged to fall back to a second position six miles nearer Samarra. Another hotly contested action, and the battle for the railway terminus was over. The enemy re-



KASR-I-SHIRIN.

treated north, leaving the station undefended. Fire had destroyed a great part of it, but a rich booty in railway material—engines, trucks, and other rolling stock—was found, and afterwards greatly assisted the transport. In little more than a fortnight trains were running between Samarra and Baghdad. Thus the whole section of the railway built by the Germans had fallen practically intact into Sir Stanley Maude's hands, the danger of inundations from the river was past, and two of the main objects of the post-Baghdad campaign had thereby been accomplished. Samarra city itself, once the capital of the Caliphs, which lies on the left, or eastern bank of the Tigris, was also occupied.

One more important operation before the end of the campaigning season remains to be noted. While the fate of the railway was being decided at Istabulat the 13th Turkish Corps attempted a fresh offensive in a last desperate hope of saving it. Issuing from the Jebel Hamrin range after some extraordinary marching two groups of infantry had pushed swiftly down the Shatt-el-Adhaim towards the Tigris. In their haste the first group was sent forward 17 miles in advance of the second. The chance of defeating the enemy in detail was too good to be missed. The first group was engaged, heavily punished, and pursued along the Adhaim, and after many losses both groups were driven back into the Jebel Hamrin, whence they came. The result of the last fighting of the campaigning season had thus been most satisfactory. During April 3,000 prisoners had been taken. The enemy's spirit had been broken. His 13th and 18th Corps, or what remained of them, had been driven back, the former into the hills on the north-east, the latter north to Tekrit, so that no enemy was to be found within 40 or 50 miles from Baghdad, and the position of the whole force in Mesopotamia was comparatively safe.

After April (1917) the troops were distributed in summer quarters, so that the trials of the approaching season might be faced in the most tolerable conditions. Experience had proved that it was both unprofitable and destructive of *moral* to carry on campaigning under the blazing heat of the Mesopotamian sun. Townshend's "Invincibles," it is true, had fought the battle of Kut in June and rested little during

WATER FOR THE HORSES.

the whole summer of 1915, but the strain had left them much weakened, and the example was not one to be imitated.

In the year following the authorities adopted the policy of practically suspending operations during the summer, and the wisdom of this course was very apparent in 1917. This was the hottest season in Mesopotamia of which there was any record. Baghdadis remembered nothing like it before, and at Basra, owing to the moisture in the air, the conditions were even more trying. Temperatures of over 120° F. in the shade were common. Fortunately the arrangements made for meeting this trying ordeal were ample. Some of the troops had been dispatched to India on well-earned leave, and the bulk were drawn into reserve and distributed in the coolest spots along the river. Ice plants also had been installed, bathing facilities created, and many other things were done, with such happy results for the comfort of the force that the sick rate this year was far lower than in 1916. It must not be supposed, however, that the soldiers stagnated during this respite from active service. "Manly sports," wrote Sir Stanley Maude, "which are so essential to the well-being of the soldier, were freely indulged in with beneficial results to the health and future fitness of the Army"; while training continued in the early mornings and late evenings. It will be seen that the grave faults disclosed at an earlier stage in the medical and sanitary arrangements, as well as in the military conduct of the Expedition, had been remedied.

It was unfortunate, in view of the proved wisdom of this policy of the summer resting time, that in July—the very month when the heat became most unbearable—a considerable operation was undertaken on the Euphrates. The enemy force on that river had, after the fall of Kut, retreated towards Ramadie, unpursued by the British, but in April a small force had been sent across from the Tigris at Baghdad to Feluja, on the Euphrates, the two rivers being here only 40 miles apart. Feluja was not too far away to be held comfortably from Baghdad, and from it a watch could be kept on the Turks upstream. The situation could not be regarded as satisfactory; and seeing the Turks quietly in possession of Ramadie and the country below it, some of the Arab tribes, for subsidies received, aided the enemy, while others defied all authority—as was their wont. A column was therefore sent on July 10 to deal with a hostile force of about 1,000 Turks and 2,000 Arabs of the Delaim tribe centred on Ramadie. On the 11th the enemy advanced positions were driven in and the British prepared for the final assault. But one of the blinding

FUNERAL OF A SIKH.

dust storms which are so common a feature in Mesopotamia now sprang up, the heat was already intense, and the position of the troops was becoming more and more difficult. The order for the attack was therefore cancelled, and the next day, the heat wave being worse, the whole operation was abandoned. It was the only real failure of General Maude's plans since he had been in the chief command, but the decision to retire was well advised. The enemy, emboldened by the British retreat, followed up the rearguards somewhat truculently, and appear to have been animated by a spirit of false confidence, for which they paid dearly two months later when the next move against Ramadie was made.

Major-General Sir H. T. Brooking was in command of this operation. Ahmed Bey, the Turkish commander, had had the hardihood

[Official photograph.

INDIAN CAVALRY AT RAMADIE DUMP.

to remain within striking distance, having received reinforcements. On the British side very careful preparations had been made, because it was determined that this time the blow should be a crushing one. The battle plan aimed at nothing less than the capture of the whole enemy force. Such an unusual feat was quite possible in this instance owing to the nature of the country. The Turks' only line of retreat was by the Aleppo road alongside the Euphrates, and if they could be surprised and a strong force thrown round their rear across this road, they might be pinned down against the river. Tactical skill of a high order was necessary for such an operation, and the enemy must be deceived, both before and during the battle, as to the direction of the main attack. Elaborate steps, therefore, were taken to induce the enemy to expect the attack on his left, by the river; and to add colour to this idea the Euphrates was bridged somewhat lower down and a road constructed on the opposite bank, where supplies and troops were collected. Three miles before Ramadie the Turks held an advanced position on Mushaid Ridge. Before daybreak on September 28 this was outflanked, the enemy was driven into his main position, a semi-circular line a mile from the town, and compelled to fight a severe battle during the day. Meanwhile the cavalry, screened by the Mushaid Ridge, were hurried round the flank, and after eight hours' marching were established astride the Aleppo road. At night they prepared for a desperate struggle. This cavalry force, however, was furnished with machine-guns, and when the Turks sought to break through they were flung back into Ramadie. A general attack with all arms of the British force began, when suddenly the Turkish guns became silent, and white flags went up all along the line. It was a general surrender. Ahmed Bey was captured at his headquarters, and when the full count of prisoners was made they amounted to 3,500.

It was a finished piece of work, and one of the completest victories won in Mesopotamia, and indeed, on a small scale, in the whole war. The Turks were doubtless outnumbered, but they had been able to choose their own ground, and were at liberty to fight or retreat. Had Ahmed Bey correctly measured the chances and declined the battle, a determined rearguard could have saved the bulk of his army, as the pursuit was practically restricted to a single road. It is very rare in modern war for a whole force to be surrounded and compelled to surrender *en masse*, and only great efficiency in the Staff and Intelligence work could have achieved such a surprise. Sir Stanley Maude, however, was accustomed in working out his plans to give his personal attention to the smallest detail and to see things for himself

on the spot. He travelled to and from the front lines in an aeroplane, at Ramadie as well as on other fronts. His staff, thinking of the value to the whole force of the life of its brilliant commander, often opposed his flying, but his choice of a way to do anything was always the quickest way. In the same way he was wont to travel up and down the river in a *glisseur*—a strange-looking motor boat which, owing to the shallow depth of the stream, was mounted with an air propeller, and which skimmed the surface at a speed of 40 miles an hour.

The effect of the enemy rout at Ramadie was considerable, and after the Germans' much-advertised intention of restoring the situation in the East, this first blow in the new campaign was welcomed as of good augury. It was certain, however, that the Turks would not lightly give up the hope of recovering Baghdad "the glorious." But two months later came the magnificent successes of General Allenby in Palestine, which completely altered the military situation in this part of the world.* Henceforth the chief task of the command in Mesopotamia was simply to continue to strengthen its position. Danger from a Turco-German offensive was no longer probable, in spite of the withdrawal of the Russians. During the early summer of 1917 General Baratoff's force had fulfilled a useful function in prolonging the British right flank up the Dialah, but early in June they sent word that owing to the increasing heat they had found it necessary to evacuate their lines and withdraw into the hills beyond the Persian border. The position of the Russians in Mesopotamia was not a comfortable one, with communications over 400 miles long across Persia, and partly in hostile country. On one occasion one of their detachments among the frontier hills was surrounded by Kurds, and had to fight a nine-hours battle before it could cut its way through. In December a small force of Russians was once more aiding the British on the Dialah front, but after this they seem again to have withdrawn.

Before dealing with the operations of the winter of 1917–18, the general position of the Mesopotamia Force at the beginning of the campaigning season may be indicated. On the

* News of the fall of Baghdad and what followed appears to have been concealed from the Turkish Army in Palestine. Prisoners taken by General Allenby professed astonishment on hearing of those events.

[*Official photograph.*

SUPPORTS WAITING TO REINFORCE CAVALRY ATTACKING.

[Official photograph.

MEMORIAL SERVICE FOR SIR STANLEY MAUDE.
Held in the Citadel, Baghdad, November 25, 1917.

north-east, its right wing, it was opposed by the Turks who were holding the Jebel Hamrin range, which stretches obliquely across the country from the Persian border to the Tigris; while on the Tigris the enemy was entrenched in front of the ancient biblical city of Daur, and on the Euphrates the British left wing was secure at Ramadie. Early in October it was decided to occupy the Jebel Hamrin astride the Dialah in order to control the canals which watered a fertile tract of country in British occupation. This operation was entrusted to the corps under Lieut.-General Sir William Marshall. The Turkish forces on this occasion evaded capture, but General Maude's object was accomplished, and at very slight cost, and a position astride the Dialah gorge was gained, protecting the headworks of the canals. The main canals were rapidly bridged. Seventy-five bridges of various sizes were built in this area alone, and the Jebel Hamrin, which before was a roadless tangle of hills, was gradually pierced by a very complete and convenient system of roads.

Whilst these operations on the Dialah front were in progress the 18th Turkish Corps—which must have been almost entirely reconstituted—undertook a counter-demonstration towards Samarra. Before they could consolidate the Turks were forced back on Daur, and then on to their riverhead at Tekrit, from which also they were driven in panic-stricken flight, their casualties being about 2,000, including 319 taken prisoners. In this action, fought on November 5, Sikh infantry and British and Indian cavalry greatly distinguished themselves. Tekrit, the birthplace of Saladin, was occupied the next day. It was not, however, held. It is a desert town, isolated in a stretch of barren country unrelieved by any patch of cultivation; a place full of memories of Asiatic conquerors, but filthy, without resources, and needlessly remote from British Headquarters—it is close on 100 miles from Baghdad. Accordingly the main body of the troops was at once ordered back to the more convenient position at Samarra.

On November 19, 1917, the Army in Mesopotamia suffered an irreparable loss by the death of the Commander-in-Chief.

[Official photograph.

DUMP AT RAMADIE.

Cholera was not epidemic in Baghdad, the number of cases was fewer than forty, and it was a singularly tragic circumstance that Sir Stanley Maude, who had escaped several plots against his life by the vigilance of his guards, should have been singled out by the dread disease. He fell a victim to an act of courtesy at a native entertainment to which he had been invited in a Jewish school in Baghdad. The only detailed account of this incident is given by an American writer, who had come to Mesopotamia to describe the doings of the victorious Army, and was the guest of the Commander-in-Chief at the Residency. The entertainment was an occasion of ceremony, and representatives of a dozen Eastern races, wearing their finest garments, were present in the hall:—

A good half-hour was wasted in preliminary courtesies. One person after another came up and greeted the General, and there were numerous introductions. The chief rabbi of the city, a large black-bearded man in long

silken robes and a white-and-gold turban, took a seat on the other end of the little platform and assisted in the ceremonies, while the headmaster, a typical Baghdad Jew with a French education and old-fashioned French manners, hovered about and displayed his pleasure in the occasion by much suave gesticulation and many smiles. Then they brought a small table and placed it before the Army Commander and me, on which were two cups, a pot of coffee, a bowl of sugar, and a jug of milk. He drank the coffee, and he poured into it a large quantity of the cold raw milk. I drank the coffee, too, but without milk. . . . When it became certain that he could not live, the doctors asked what he had taken that night, and I told them. They had no suspicions at the time and no thought of anything but of the overwhelming disaster, but they decided that that was where he probably got the infection. He had cholera in its most virulent form.

face of affairs in Mesopotamia. At his death, in the words of his successor, the *moral* of the Army was magnificent, and its organization and training were at a high level of efficiency, while the *moral* of the enemy was correspondingly low. His loss was keenly felt in every part of the Empire, and the King gave fitting expression to the general feeling in the following message of sympathy to the Army in Mesopotamia :—

"I have just heard with the deepest regret of the death, under such sad and tragic circumstances, of General Maude, who has

General Marshall. [*Official photograph.*

GENERAL MARSHALL LEAVING THE MAUDE MEMORIAL SERVICE.

In a few days the Army Commander was dead. It was a bitter blow to the whole Army in Mesopotamia, by whom he was idolized, not only as a leader who had conducted them from victory to victory, but also for the intense personal sympathy which existed between him and his soldiers. He had come to Mesopotamia when the Army was at the lowest ebb of its fortunes ; had led his division in the dark days before the fall of Kut ; had bent himself to the stern work of reorganization through the hot months of the succeeding summer, and moved at last only when all was perfectly ready ; and finally, by his genius, he had altered the whole

rendered incalculable services to India, the Empire, and the Allies.

"I join with my Army in Mesopotamia in mourning the loss of their gallant and beloved Commander, but I am confident that his memory will ever be an incentive to the completion of the work for which he laboured and died.

"GEORGE R.I."

The new Commander-in-Chief was Lieut.-General Sir William Marshall ; his great services in the operations against Baghdad are described in Chapter CCI. The possibilities of operations against the enemy were at this time somewhat restricted. Both on the Euphrates and the Tigris the Turks had retreated out of rapid

LIEUT.-GENERAL SIR WILLIAM R. MARSHALL, K.C.B.,
General Maude's successor in command of the British Forces in Mesopotamia.

striking distance; on the former river their power had for the time been completely smashed, and on the Tigris, where the British had a convenient railhead at Samarra, it was useless to extend the lines farther by seeking out the Turk across the desert.

It was only on the right flank, therefore, along the great Mosul road, that there seemed a chance of hitting the enemy. Here, about 60 or 70 miles from Baghdad, part of the 13th Turkish Corps held the passes over the Jebel Hamrin range, guarding the route to the north. After a night march converging columns under Lieut.-General Sir R. Egerton surprised the enemy at dawn on December 3, and drove him far along the Mosul road through Kifri, where he set fire to the Kifri coal mine. As a result of the operation the British remained in possession of the Sakaltutan Pass, from which there was observation over a vast stretch of country to the north, and which was held with a view to further action at a future date. This was the last operation of 1917.

The excessive caution of the Turks prevented

any other important action for some time. Then in February and March, 1918, having in the meantime received reinforcements on the Euphrates front, they plucked up courage and began to be aggressive, sending patrols down the river. General Marshall conceived the possibility of repeating the success of Ramadie, and ordered Sir H. T. Brooking, who again commanded on this front, to capture Hit and its garrison. The Turks, however, fell back before him, abandoning that ancient but evil-

[*Official photograph.*

TURKISH DIVISIONAL HEADQUARTERS AT RAMADIE.
Formerly the house of Sir Edward Jackson.

smelling town—it is everywhere pervaded by the odour of its bitumen wells—and finally took up their stand at Khan Baghdadie, some 20 miles upstream. The plan of operations was to make an attack in strength on their left near the river, and to send a flying column over the desert to encircle them on their right. It was almost an exact repetition of the tactics of Ramadie, and, having regard to the Turks' experience on that occasion, it seemed in the highest degree improbable that the British would again be able to surround and capture the force. The only chance of success was swift and secret action. To this end the capacity of the force for rapid movement was increased, and a cavalry brigade under Brigadier-General R. A. Cassels and a number of armoured motors were sent forward, with instructions to move by night and conceal themselves by day. From what occurred afterwards it was evident that these measures were effectual in concealing the ambitious plan of the operations, and that the Turks were, in fact, surprised.

The attack was launched on March 26, and all that day and most of the following night the infantry were fighting, with very good results. The enveloping movement of the cavalry was also successful. By the evening of the first day they had completed their wide circuit of the enemy's flank, gained the Aleppo road, and cut off the retreat by road and river. About midnight the Turks tried to break through, but were completely beaten, losing 1,000 prisoners. Next morning the infantry went in again, but the Turkish guns gradually ceased firing, a white flag fluttered from the top of a ridge, and the Turks came forward and surrendered. It was again a complete rout. The bulk of the Turkish force were either prisoners or out of action, but many small parties who had got through were flying along the Aleppo road.

The moment for employing the full strength of the mobile column had now arrived, and the cavalry, with other troops in motor-cars, enjoyed the rare experience of the pursuit of a defeated enemy across the open field. There was no serious resistance. The guns had been captured in battle or left behind, and the Turks' only thought was flight. They cast away rifles, stores, ammunition and all their impedimenta—there was the same litter along the road

as in the pursuit from Kut to Baghdad ; and at places the pursuing cavalry passed ammunition dumps which there had been no time to explode. Very few of the enemy escaped. The road, clinging to the Euphrates, stretches for 400 miles to Aleppo, and stragglers who sought refuge from the cavalry and armoured cars by leaving the highway were shot down by the machine-guns of the airmen. The airmen, indeed, were a most valuable auxiliary in the pursuit. They were constantly in touch with the cavalry, who, from the intelligence they brought, knew exactly what lay before them, and where to hunt out the small bands of Turks. On the 28th the column reached Ana, where a great dump of ammunition was found—so great that it was impossible to remove it, and it was blown up. The pursuit by motor was continued 73 miles farther, and a few more prisoners, worn out and demoralised by the rapidity of the pursuit, surrendered without opposition. Altogether the motor force covered 140 miles in two days. The total number of prisoners taken was over 5,200.

The victory was, if possible, a more brilliant achievement than Ramadie ; it was won against a much larger force, and it had the same effect of leaving the Turks for a considerable time completely powerless on the Euphrates. It was the first large operation undertaken by the new Commander-in-Chief. General Marshall attributed the completeness of the victory to the masterly way in which the force was handled by Sir H. T. Brooking, though the credit of such a considerable operation must largely belong to the Headquarters Staff which prepared the plan and facilitated its execution.* The troops also showed extraordinary endurance and rapidity of movement ; apart from the more spectacular performance of the flying column, the infantry had to march for two days and two nights, with little or no sleep, and to fight the whole of one day and part of two nights. It only remains to be added that the ground won in this advance was not held. General Marshall's object was to crush the Turks' fighting power, not to advance on Aleppo, and accordingly he withdrew his troops, leaving Khan Baghdadie to the enemy, who came on gingerly two months later.

The only other operation on a large scale before the end of the campaigning season was

[Elliott & Fry.

MAJOR-GENERAL SIR R. G. EGERTON, K.C.B.

a rapid dash up the Mosul road—though here again there was no intention of an advance to Mosul. It has been stated that Sir R. Egerton, after the December fighting in the Jebel Hamrin, retained the control of the Sakaltutan Pass as a starting point for future movements. Within a day's ride across the hills was Kifri, the advanced Turkish base, whence an easy road gave access to Kasr-i-Shirin (at this time occupied by a British detachment), and thus to the great highway into Persia. Now that the Russian troops had withdrawn it became more than ever necessary to take further action in this region. The Mosul road affair, therefore, was intended to prevent the entry of small mobile forces of the enemy into Persia, and at the same time to inflict upon them as much damage as possible. This programme was very thoroughly carried out. In a little over a fortnight the Turks were driven back for over

* The Chief of Staff was Major-Gen. W. Gillman, C.B. During his absence on a special mission Brig.-Gen. T Fraser took his place.

100 miles over the high plateaux of Southern Kurdistan to the Lesser Zab, and the British took from them about 2,000 prisoners. The British column was preponderantly cavalry, and moved swiftly; on certain days some squadrons covered 50 miles. So rapidly did it come on that the Turks at Kifri did not await its attack. They retreated on Kirkuk, but the cavalry overtook one of their columns and immediately charged it, taking 540 prisoners. On April 28 the cavalry forced the passage of the Ak Su, on the 29th they took Tuz Kurmatli, and on May 7 they entered Kirkuk, the headquarters of the Turkish forces on this front. The town, which is the largest between Mosul and Baghdad, had been abandoned, together with a large quantity of military stores. The last act of the Turks before leaving it was to blow up the Christian church, which dated from the fifth century and was almost the only monument of historical interest which Kirkuk possessed; it had been used as an ammunition dump. The cavalry went on another 25 miles, but the Turks showed no fight and melted away beyond the Lesser Zab. For the best part of a month the British were engaged in removing the rich military booty found at Kirkuk, after which they withdrew, but retained Kifri as a place controlling the route to Persia. Altogether the offensives on the Aleppo and Mosul roads inflicted casualties on the Turks reaching over 10,000, including 7,500 taken prisoners. The British also captured 30 guns.

Among the troops who took part in these operations under General Marshall were men of 27 infantry regiments of the British Army, besides cavalry, yeomanry, artillery (including Territorial artillery), and Australian and New Zealand troops. The Indian contingent included Patiala, Maler Kotla, Mysore, Gwalior and Jaipur Imperial Service troops, and there was an Anglo-Indian force. Nor did this exhaust the cosmopolitan character of the Army, for among it were several American volunteers; of these Capt. Kermit Roosevelt, a son of Mr. Theodore Roosevelt, won the Military Cross. The campaign, indeed, afforded many opportunities for individual acts of gallantry, and General Marshall conferred on the field 224 awards to British and 134 to Indian soldiers.

The destruction of the Turkish power along the Mosul road was a measure taken in good time, and formed the preliminary step in a wide development of military policy in the

[Official photograph.

CAPTAIN KERMIT ROOSEVELT (on right) ON THE EDGE OF A CAPTURED TRENCH.

East. Since the Russians' defection the Turks had overrun Armenia, had advanced into Northern Persia and occupied Tabriz; in place of the recapture of Baghdad other and far-reaching schemes, aiming at the bases of British security in Asia, had been conceived by the Germans and Turks, and were now being put into execution. At the very least the Turkish advance into Persia *via* Transcaucasia must in the end be a menace to the flank of the British in Mesopotamia. Sir William Marshall began with the enemy who were already before him on the Mosul road. Most of the routes into Persia were beyond his reach, but he could and did do much to reduce the Turks facing him to impotence, and thus, in one quarter at least, to thwart the grandiose schemes planned in Berlin. For the execution of these plans Falkenhayn, whose reputation had suffered grievously from the winter's events, was removed from the chief command, and was replaced by General Liman von Sanders, who knew Turkish conditions from personal experience. But these designs, and the measures taken to meet them by the extension of the British flank 400 miles across Persia to Enzeli on the Caspian, do not come into the scope of this chapter.

It may be said, however, that the moment was not unfavourable for this extension of the sphere of Sir William Marshall's theatre of operations. As the enemy declined to challenge his supremacy in Lower Mesopotamia very little more remained to be done in that field. To have followed the Turks into Upper Mesopotamia would have been to lose the advantage of position which he enjoyed.* From Baghdad, now connected by railway with Basra, a system of railways radiated to all the fronts, giving the British the advantage of internal lines in a most marked degree. Beyond this was a tract of country which was very largely desert, and the Turkish railheads, still farther beyond, were at a great distance; thus, the further pursuit of the Turks would have meant the indefinite lengthening of the British and the shortening of the Turkish communications. It must also be remembered that every military requirement, except in part food, had to be brought from Basra, which is 500 miles by river from Baghdad. And Basra itself was based upon India, which as its munition works expanded was becoming more and more the source of supplies, as well as of troops. The increase of the military resources of India was, indeed, little short of marvellous.

In the early months of 1918 the state of

[Official photograph.

A TURKISH OBSERVATION POST AT RAMADIE.

famine to which the Turks had reduced North-Western Persia induced Sir William Marshall to open up the main trade route *via* Kermanshah, in order to get supplies to the poor inhabitants. Not only had this region been ravaged by the passage of armies, but Persia had been visited by a drought in the summer of 1917. The condition of the population was, indeed, appalling. Many of the villages were completely deserted, thousands of the inhabitants had died of hunger, and the few who

* This does not imply that Upper Mesopotamia was outside the British, or Arab, sphere. In the agreement with Berlin concerning the Baghdad railway which the outbreak of war prevented being ratified, Britain was given navigation concessions on the Euphrates up to the Aleppo meridian, and on the Tigris up to Mosul. This indicates, roughly, the northern extension of Arab occupation.

[Elliott & Fry.

MAJOR-GENERAL SIR PERCY COX, G.C.I.E., K.C.S.I.
Civil Commissioner with the Mesopotamian Force.

remained when the British force passed along the road were ragged and miserable, and begged piteously for food. So great was the pressure of hunger that instances occurred in which stray groups of British troops were attacked by unarmed Kurds for the sake of food. To these unhappy victims of the war the British column brought some relief, though the extremity of the need was such that they could do comparatively little. They were able, however, at the same time to provide an outlet for the native manufactures, and also to furnish the people with employment in improving the road, which was in a bad state of disrepair. The latter object was one of considerable importance in view of the volume of military traffic which was to flow over it in the coming summer, when the passage of the British force brought renewed animation and security to the ancient highway. And it was not the least result of the measures taken by the British that in some of the Persian border districts order was restored and protection given to the tribes, of whom several were Christians—Nestorians. In the south-west of Persia, too, in the province of Arabistan, part of General Marshall's force was doing good work. Here the primary object was the protection of the oilfields near Tembi, but the troops also maintained order in Ahwaz, Shushtar and Dizful, a task which was beyond the power of the Persian authorities. For the most part the inhabitants welcomed the British troops and intrigues of enemy agents proved abortive. There was a disturbance at Shushtar in November, 1917, when the British consulate was threatened, but it was quickly suppressed. In short, along nearly the whole western border of Persia the British were carrying out a work of pacification, though it was in Mesopotamia itself that their chief task in this direction lay.

The redemption of Mesopotamia from the ruin, material, intellectual and moral, into which it had fallen during centuries of misgovernment began with the arrival of the Expeditionary Force at Basra in November, 1914. It could not, however, be taken in hand on any considerable scale until the whole region at the head of the Persian Gulf—that is, the Basra Vilayet and the Persian province of Arabistan—had been brought under military control. By the Karun river operations and by the occupation of Nasiriyeh, Kurna and Amara this had been accomplished by July, 1915. Thereafter the civil and political departments under the guidance of Colonel (later Major-General Sir Percy Cox, who was appointed Civil Commissioner, had ample scope for their labours. The task required most delicate handling. If their mission was to be successful a great deal more than the maintenance of public order was required. The confidence and cooperation of the Arabs had to be won—and a more intractable and suspicious person than the average Arab of Mesopotamia would be hard to find. And the three great tribes represented in Mesopotamia, the Shammar, the Anaza and the Moutafik, were equally jealous of their own independence and rarely acted in common. Military events were also at first adverse. The retreat from Ctesiphon,

the siege and fall of Kut, these were things which did not help Sir Percy Cox and his assistants. The situation was greatly changed in March, 1917, by the expulsion of the Ottomans from Baghdad and by Sir Stanley Maude's proclamation—a proclamation which gave public and formal assurance of the sympathy of Great Britain and her Allies with the Arab movement for national independence.* That this sympathy had already been translated into direct help to the Arabs of the home-land was known to the peoples of Mesopotamia; they knew, too, that Sir Stanley Maude was stating facts when he declared that not only the King of the Hedjaz, but "the noble Arabs, the Lords of Koweit, Nejd and Asir" were allies of the nations fighting against Turkey and Germany. The heads of the great Arab communities cordially welcomed the appearance of the British in Baghdad Vilayet. "It is only meet," said the King of the Hedjaz in a message to Sir Reginald Wingate, "that this city [Baghdad] should thank God Almighty for its liberation from the criminal hands of the Turanians." The Sultan of Egypt, Hussein Kamel Pasha, expressed himself in equally cordial terms.† Almost all the leaders of the important Shi'ite community in Mesopotamia at once openly sided with the British. In April, 1916, as a consequence of numerous outrages, they had ejected the Turkish authorities (called Unionists, from the Committee of Union and Progress) from their sacred cities—Kerbela and Nejef. This action had led to the despatch of an Ottoman force from Baghdad to punish the "rebels," and on that occasion (May, 1916) the Turks showed once more their disregard of Islamic feeling by firing on the Mosque of Hosain. Meeting with stiff opposition the Turks had retired, though while they still held Baghdad there was the possibility of their return to Kerbela. It was therefore natural that the Shi'ites of Mesopotamia should be glad that the British advance up the Tigris had automatically freed Kerbela and Nejef from any further chance of interference from the Turks. Not content with sending cordial messages to Sir Stanley Maude, one of the principal *Mujtahids* (religious leaders) of Kerbela telegraphed direct to King George the congratulations of "the spiritual leaders

* The text of this proclamation is given in Vol. XIII, pp. 285–287.

† Hussein Kamel, whose support of the British connexion was of great value, died in October, 1917, being succeeded by his brother, Ahmed Fuad

THE MILITARY GOVERNOR'S HOUSE AT BASRA.
Stores in the foreground.

of Islam here" on the success of the British arms. This brought a much treasured reply from the King, in which he said: "My earnest desire is for the well being of Irak [Mesopotamia] and its people, the preservation of its Holy Places, and the restoration of its ancient prosperity." That was in April, 1917; in June following came Mr. Lloyd George's statement in Parliament that, while the future of Mesopotamia must be left to the Peace Congress, "there is one thing that will never happen to it—it will never be restored to the blasting tyranny of the Turks."

Sincere as was the rejoicing of the majority of the Arabs, and of the other dwellers in Mesopotamia (Persians, Jews, Armenians, etc.), in the expulsion of the Ottomans, yet Sir Percy Cox and his helpers knew well that their work was beset with difficulties. Noteworthy among the new officials was Miss Gertrude Lowthian Bell, the first woman on record to hold an official appointment in the East in the Political Department.* Sir Percy Cox himself had many qualifications for his post, not the least being his long experience (nearly twenty years) in the Persian Gulf, where since 1904 he had been Political Resident as well as Consul-General for Fars. His knowledge of Persia and Persian, as well as of Arabia and Arabic, stood him in good stead, for Baghdad has intimate relations with Persia, religious as well as racial and commercial. The Persian community of Baghdad ranks next to that of the Jews in enterprise and importance, and the majority of the Arabs in the city adhere to the Shi'ite sect, the division of Islam professed by the mass of the Persians. It was one of Sir Percy Cox's first triumphs that he brought

* In 1918 the Royal Geographical Society awarded the Founder's Medal to Miss Bell. Colonel Sir Thomas Holdich, the President of the Society, in announcing the award, gave a summary of Miss Bell's travels in the Near East, which began with a journey through the Hauran in 1905, and included long stays in Mesopotamia. "Finally, in 1913–14 she undertook a most notable journey in north Arabia, travelling south-east from Damascus, crossed the Nefud, visited Shammar, the capital of Hail [Hail, the capital of Shammar], not visited by any European since 1913, back by Baghdad and across the Syrian Desert to Damascus. . . . As Miss Bell takes her travels most seriously, speaks Arabic with fluency, has the great gift of making friends with the people of the country, and is an accomplished antiquarian scholar, it is small wonder that our Government have found her services . . . useful in connexion with the Mesopotamian campaign." (*Geog. Jnl.*, July, 1918.)

PROCESSION OF PRISONERS.

Turkish officers at the head of their men being marched through Baghdad by a British escort.

about a frendly understanding between the Shi'ites and Sunnites at Baghdad. At the same time the needs of Christian and Jew received attention. Since the Mongol invasions and persecutions of the thirteenth and fourteenth centuries the Christians of Mesopotamia, who even under the Caliphs formed, if not the bulk, a very large proportion of the people, had sunk in numbers and importance, and had suffered from dissension and isolation. But both Nestorians and Chaldeans had clung tenaciously to the faith, and the advent of the British revived hope for their future. In Baghdad itself the native Christians numbered some 6,000; there were also Armenians, many of them recent arrivals—that is, they were survivors of parties driven by the Turks across the desert. Children and young people who had been forcibly "converted" by the Turks and were found in various Mussulman families were as far as possible restored to their own community. Homes, financed by the British Government, were also established for the reception of these sufferers.* In short, everything possible was done to aid the Armenians as well as the other native Christians and the Jews. The jurisdiction of the religious heads of the various communities was acknowledged and strengthened. The Baghdadi of all sects responded by giving willing help to the British authorities. The city was under a military governor, Brigadier-General Hawker, but military rule in no way pressed heavily on the development of civil life. The aspect of the city after some sixteen months of British occupation was the subject of one of the letters of Mr. Candler. Writing from Baghdad in June, 1918, he said:

> Baghdad was dead to all appearances, or moribund, when we entered it on March 11 last year. Now it is a bustling hive of humanity. Thousands of workmen pass through the streets early and late. The main thoroughfare is a constant stream of traffic, the sleepiest old women who haunt the bazaars have become adepts at dodging the Ford van.
>
> A police force has been organized and a fire brigade. The street lamps have given place to electric lights. The water supply has been extended. Mosques have been repaired, roads metalled, schools opened, including a survey school and a training school for teachers. Water carts ply in the streets, sanitary squads have penetrated the most hidden purlieus of the city, the smells are becoming centrifugal. Galled, injured, sick, and starved animals are received into a home until they are fit for shaft or pack again. The markets are controlled; the grain supply has been taken in hand; and the prices are now moderate. The municipality pays its way, and the Tigris is crossed by two bridges.

COSTUME WORN BY POORER CLASS OF MAHOMEDAN GIRL.

As to the larger aspect of the administration's activities, that which affected not Baghdad alone but the whole country, Mr. Candler referred to—

> the complicated nature of the machinery we have been getting into gear, the complex relations of labourer, tenant, landowner, and State, the difficulty of adjusting their rights and of assessing property and taxes, with no revenue registers or land records to go upon. All this is being done, and a system is being evolved based on what is sound in existing organization. We have adapted and modified these to meet the new needs, preserving as far as possible local traditions and employing native agency.

To this may be added that by July, 1918, the Government had opened 13 primary schools, besides aiding four municipal schools started since the occupation, and had established "extension" classes in agriculture. The demand for education, in fact, outstripped the supply of teachers available. That within

* In the summer of 1918 several hundred Armenians found at Kirkuk were rescued by the British troops and brought back when that town was evacuated. A number of Armenians volunteered for active service.

THE BRITISH RESIDENCY AT BAGHDAD.

The building of which a portion is seen on the left was erected by a wealthy Pro-German official, and would have completely commanded the British Residency had not the Resident insisted on the erection of a high wall (shown in the picture) to prevent spying.

eighteen months of the occupation of Baghdad the greater part of the vilayet of which it is the capital should have been restored to order, and its people content, was the best testimony to the work of the officials. The law courts were reformed and justice executed with absolute impartiality, but the people found that account was taken of their customs, and even of their prejudices, and that no attempt was made to thrust upon them a British and alien system.

As to the Basra Vilayet, the administration was running on what were practically peace lines. The smoothness with which the machinery here ran was due in some measure to the employment found, at good wages, for many thousands of the people in the development of the port of Basra—where a dockyard was completed and great wharves erected—and the building of railways and other public works. The line from Basra to Kurna, built in the early stages of the British occupation, was extended along the Tigris to Amara, and thence to Kut and Baghdad. The tribes on the banks of the Tigris, which, as explained in the narrative of the military operations, was the line of advance of the troops, gave little trouble, for which high credit was due to the tact and ability of Sir George MacMunn, the Inspector-General of Communications, and his department. The work, notably that of the patrols, railway guards and escorts, was both arduous and monotonous, but they contended successfully with the efforts of enemy agents to cause damage and delay. Such "damage" as did occur was due not to Turkish intrigues, but to the action of Arab marauders; for, as there will be occasion to show when dealing with developments on the Euphrates, the riverain tribes were true Ishmaelites.

On the Tigris (said General Marshall in his dispatch of April 15, 1918) the only trouble caused has been due to losses by theft from trains and boats, especially between Kurna and Amara. This district is inhabited by marsh tribes, who in their native swamps are afforded complete immunity against attack by land, as they retreat rapidly into their boats, leaving nothing of value behind.

With the more influential tribes, such as the Abu Muhammed, the Beni Lam and the Beni Rabiah, the British authorities established an *entente cordiale*. The land they occupied was Crown property—that is, it had been annexed by the Turks, who leased it out for periods of five years to the highest bidder. The rents, which were sometimes paid, were extortionate. When the tribes submitted to the British all arrears were remitted and new rents fixed proportionate to the real value of the land. Much attention was also given to the settlement of disputed boundaries, in this as in all matters relating to public order the support of the sheikhs being sought. Indeed, in every legitimate matter the authority of the chiefs was upheld; for the Turkish policy of pitting tribe against tribe and class against class was substituted arbitration on the basis of tribal custom, the adjustment of blood feuds and the opening of schools and dispen-

saries. Arabs were also enrolled in river guards under civil control. In short, the British official worked on familiar lines, and "that the political officers have been skilful in exercising a happy combination of force, patience and persuasion is shown," wrote an observer on the spot, "by the personal friendship and confidence which exists between them and many of the sheikhs with whom they have to deal." In two cases at least it was found that the head of the tribe was a woman.

In the towns on the Tigris the administration had a straightforward course, inasmuch as its work tended to the immediate benefit of the townsmen. Some indication of what was accomplished at Baghdad has been given. On a smaller scale the same kind of thing was done at Kurna, Amara and Kut. Thus at Amara, which lies, from the railway point of view, on the other side of the Tigris, a fine bridge, 750 feet long, was built, with, for the convenience of shipping, a movable central portion which could be opened or closed in four and a half minutes. The bridge was opened for traffic on August 15, 1917, and was named after Sir George MacMunn. At Amara too, and also at Kut, the port was enlarged and deepened. At Kut, where 1,746 British and Indian soldiers who died during the siege lie buried in a graveyard the Turks respected, the work of restoration was taken in hand shortly after its recapture. It was then a place of desolation. But in the middle of April (1917) a young political officer arrived in the ruins, and the way in which he set about "purging and reconstruction," told by Mr. Candler, is worth quoting as an example of the way in which the "young political" Empire-builder goes to work:—

> The first thing the young political officer built was an imposing colonnade bazaar along the river front. He began with a coffee shop and some retail shops to make life endurable for the builders. He collected skilled masons, men who had been employed by the Germans in the Baghdad Railway buildings, and by the Turks in the repairing of Ezra's Tomb 18 years ago. He rebuilt and re-roofed the old bazaars, widened old streets and built new ones, and repaired the Sunni and Shiah mosques, the Turkish baths and ice factory, and the flour mill. The flats and shoals in the middle of the Tigris were converted into vegetable gardens, each with its osier-like screen of liquorice scrub to keep off the driving sand. The women are now winnowing peacefully in Lynch's old Serai. In a courtyard a few doors off the Arab and Kurdish police are being drilled by an Arab sergeant to English words of command.
>
> Kut is a better and cleaner town. Most of the people are back again behind their old doors. Nearly 5,000 have returned out of a population of 6,000. And they prosper—for there is abundant labour for them in Kut and its neighbourhood. Townshend's house has been repaired. The memory of the General survives in the nameboards at the corners of the streets. There is Townshend Road, Delamain Road, Melliss Road, and the names of brave regiments are recorded in Dorset Road, Norfolk Street, Mahratta Row, and the like. Every association in the nomenclature of Kut is glorious to the memory of its defenders.

While military necessity, that is the security of the means of communication with Baghdad, led to the prompt pacification of the Tigris region, the situation was different on the Euphrates above Nasiriyeh. Little was to be feared from the Turks in that quarter,

LIGHT RAILWAY ENGINES IN THE TIGRIS DISTRICT.

and so until a convenient season arrived the Euphrates tribes and towns were left to themselves, or nearly so. There was one notable exception. The important part played by the Shi'ite community has been stated and their quarrel with the Young Turks set forth. In the summer of 1917 Sir Percy Cox paid a ceremonious visit to their sacred cities. It was a bold step, for at the time there were no British soldiers within many miles of those cities, which lie west of the Euphrates on the desert edge. And the Arab of Kerbela and Nejef, as a distinguished authority on Oriental affairs wrote in *The Times* (March 30, 1917), "separated from the rest of the Arab world by schism and feud, hugs himself in proud isolation, lacerating his mind with ancient griefs and indignation, and holding fiercely aloof from contact with strangers." If Sir Percy Cox's was a bold, it was also a wise step, and it was fruitful in good. The people, as has been shown, were rejoicing in their freedom from Ottoman thraldom and they were pleased to receive this new proof of the good will of Britain to the Moslems, to whatever sect they might belong. All the dignitaries of Kerbela gathered together to welcome the Civil Commissioner, who pleased and surprised them by speaking to each in his own tongue, Arabic or Persian, for the majority of the 50,000 inhabitants are Persian-speaking. Quoting an old proverb that a guest should not come empty-handed, Sir Percy Cox gave to the ulemas a sum of money to be distributed among the poor. Entering the inner city he went first to the magnificent shrine of the martyr Hosain, slain thirteen centuries before by the soldiery of the rival claimant to the Caliphate. Later, at Government House, he discussed the affairs of the community with the leading townsmen, praising the provisional government they had established on the expulsion of the "Unionists" (*i.e.*, the Young Turks).

THE MOSQUE OF HOSAIN AT KERBELA.
One of the Holy Cities of the Shi'ites.

Sir Percy remained in Kerbela some days and then went on to Nejef "the holy," accompanied by several nobles and ulemas. Here the shrine of the Caliph Ali (the father of Hosain), regarded by the Shi'ite with as much veneration as the Ka'aba, was visited, as well as the great Shi'ite school. Again to the assembled notables Sir Percy Cox explained the policy of the British Government with regard to Arab aspirations, paid tribute to the memory of the Caliph Ali and extolled Arabian literature and learning. The visit to Nejef, even more than that to Kerbela, had an element of danger. Like Mecca, Nejef is, or was, regarded as so sacred that neither Christian nor Jew was supposed to enter its precincts. To be buried at Nejef has been the desire of thousands of pious Shi'ites for countless

generations, and in and around it extend vast cemeteries. In such a community it is no wonder that there were those who were chagrined by the changes taking place. As Sir William Marshall rather naively wrote: "The inhabitants are, for the most part, well-disposed holy people, but there is in addition a proportion of irreconcilables in the town."

All went well, however, during the visit of Sir Percy Cox, for the majority of the sheikhs and ulemas—however much they might have preferred to be let alone—recognized that the British, unlike the Ottomans, respected their faith and institutions. Captain W. M. Marshall, appointed political officer at Nejef, added to the good impression by the tact with which he carried out his duties. Moreover, when, in December, 1917, garrisons were stationed in other towns along the Euphrates no troops were sent into Kerbela or Nejef. Out of regard to the religious character of those places the soldiers were encamped at a distance from their walls. Nevertheless the presence of these troops in the neighbourhood aroused the resentment of the "irreconcilable" element in Nejef to which General Marshall referred. On January 12, 1918, some of these

TOMBS AT NEJEF.

irreconcilables fired on the troops exercising near the town, causing a few casualties.

Not wishing to injure a town which is full of sacred memories for Mahommedans, I decided (wrote General Marshall) to punish two of the leading sheikhs who were known to be responsible for the offence, and to levy a heavy fine. The sheikhs, however, fled before they could be arrested, and they became outlaws. The fine was paid.

After this incident matters seemed to be going on satisfactorily, when, on March 21, Capt. Marshall was murdered, an act which necessitated prompt punishment. But once more, not to confound the innocent with the

[*Official photograph.*

CAPTURED TURKISH TUG AT RAMADIE,
Which was used in moving gun-barges.

guilty, Sir William Marshall avoided extreme measures. He ordered a blockade of the town until all those implicated in the murder were given up, surrounding Nejef with a cordon of military posts joined by barbed wire.

This incident at Nejef stood alone, and certainly did not indicate any growth of pro-Turkish feeling in the country. Sir Edmund Allenby's campaign in Southern Palestine, culminating in the occupation of Jerusalem, early in December, 1917, had, as had been already stated, a marked and an immediate effect in Mesopotamia. "By the middle of December," wrote General Marshall, "the military position [in Mesopotamia] had completely changed owing to the magnificent successes gained by General Allenby." This change enabled General Marshall to extend his responsibilities by bringing the whole of the Euphrates from Nasiriyeh to Ramadie under direct control, a step which Sir Percy Cox had strongly urged upon Sir Stanley Maude, but which the military situation then had rendered impracticable. Sir Percy Cox's visit to Kerbela and Nejef had been fully justified in its results, but it had little effect on the riverain tribes. Those tribes lived in independence; the independence of the outlaw. Nowhere else had the hand of the oppressor fallen more heavily on the Arab race. As the writer in *The Times* already quoted said:—

> In the marshes of lower Mesopotamia, whither he has fled from taxation and oppression, he [the Arab] is as a wild animal, his hand against every man's. He has known no government that did not mean oppression, extortion and slavery, he has known no neighbour who was not an enemy; the marsh Arab knows no law, he is desperate and untameable. The forces which have turned his land from a garden to a swamp have changed him from a prosperous husbandman into an amphibious predatory savage.

Unpromising material for the reformer, yet

[*Official photograph.*

THE MOUNDS AT BABYLON,
Showing some of the excavations, June 1917.

in less than twelve months these tribes, with good government, security of tenure, just taxation, and (perhaps chiefly) water for their lands, safe transport and an assured market for their produce, proved tractable and content. There was, in fact, little reason to anticipate anything else, for similar methods had already attained success with the tribes on the Euphrates between Basra and Nasiriyeh. There, in an area of 2,000 square miles, more or less, of rice-swamp, marsh land, palm groves and desert, live some fifty different tribes, among whom the Turkish policy of creating disunion had resulted in complete anarchy. "Neither Turkish official, nor merchant, nor traveller could secure safe passage. Each petty chieftain built himself a mud tower from which he defied, not unsuccessfully, such part of the universe as

[Official photograph.

THE HINDIAH BARRAGE ON THE EUPHRATES.

The first portion, completed in 1913, but not used till 1918, of the Mesopotamia Irrigation Scheme.

came within his ken, or sallied forth to plunder his neighbours and the passing stranger." That was the condition in the middle of 1915, but in two years the situation was transformed. For the period October, 1917, to April, 1918, Sir William Marshall was able to report that "the tribes between Basra and Nasiriyeh have been absolutely quiet." This, too, was to the credit of the politicals—and the engineers, a large number of whom were civilians, lent by the Indian Railways. The building of the railway from Basra to Nasiriyeh had, to quote an official report,

> a wonderfully calming effect. Perhaps more than anything else, the advent of the line has quieted the tribes. The permits issued to Arabs to travel by rail to Basra did good. Many townsmen and tribesmen have ridden out to railhead on a visit of inspection, and all came back impressed.

Another incident had shown that the townsmen, at any rate, at places above Nasiriyeh were well disposed to the British. After the fall of Baghdad the Turkish force on the Euphrates had retired upstream to Ramadie, but had left behind, in charge of sick and stores, a garrison at Diwaniyeh, a town some 100 miles above Nasiriyeh. This small Turkish garrison stayed on, hoping for relief, which never came. At the end of July (1917) the majority of the troops surrendered to the townsmen, who marched them over to the British. A lieutenant and 30 men refused, however, to yield, until one day in September two British aeroplanes

A TYPICAL ARAB HUT ON THE TIGRIS.

[Official photograph.

INDIAN TROOPS ON THE BAGHDAD-KADHIMAIN TRAMWAY.

appeared and bombed the house in which they had taken refuge. This was the last Turkish detachment left on the Euphrates below Ramadie, and three months later came the definite British occupation. Among the places garrisoned were Samawa, Diwaniyeh and Hillah, the last named not far from the ruins of Babylon. No opposition was met with from the townsmen, and such opposition as the tribesmen offered was not of a very serious character. From Nasiriyeh small columns of all arms were sent out, assisted by river gunboats, "by means of which the towers of recalcitrant chiefs were demolished and the tribe in question punished." A body of tribal horse was enrolled to perform gendarmerie duties; service in it proved an outlet for restless spirits, and provided "an opportunity of honourable employment to petty chiefs and impoverished members of ruling families."

The Euphrates territory thus opened up, including the land between the Euphrates and the Tigris, is of an antiquity and was of a fertility outrivalling Egypt; here flourished what is probably the oldest civilization known, here indeed was the Garden of Eden—Sir William Willcocks would have us believe that he has found the very site. Its fertility, like that of Egypt, depended upon irrigation; and the canals dug by some of its ancient races are still in parts in use; the Babylonian is forgotten, but not all his work has vanished. Not until the coming of the Mongol and the Turk were the canals which Persian, Parthian, Greek, Roman, Christian and Arab in turn had cherished, left to decay. Moreover, the Turk himself in the last half-century had made fitful efforts at new irrigation schemes, and finally the Young Turks placed one thing to their credit when they appointed Sir William Willcocks, the designer of the Assuan Dam, adviser to the Ministry of Public Works, and sanctioned his great plans for irrigation in Mesopotamia. Not only sanctioned but actually carried out the first part of that scheme, for the firm of Sir John Jackson completed in December, 1913, a great barrage across the Euphrates at Hindiah. The barrage had not been put into use by the Turks, but there it stood intact, for the Arabs, with a keen sense of its value, had prevented the retreating Turks from destroying it. It is little exaggeration to say that the British turned on the waters and prosperity at a bound returned to the country. It did not detract from their satisfaction that the barrage was expected to further German plans for the exploitation of Mesopotamia in connexion with the construction of the Baghdad railway.

This opening up of the Euphrates region above Nasiriyeh was not entirely a new undertaking in December 1917, though it was not till then that there was real security for its prosecution. The peaceful penetration of the northern part of the district had begun in the previous April, as soon, that is, as Feluja was occupied. The Baghdad market was thrown

open to the Arabs, the roads cleared of robbers and good prices paid for all corn brought in, a procedure which put an end to the practice in which some sheikhs had indulged—that of smuggling food to the Turks. During the summer months the roads from Hillah and Museyib to Baghdad were thick with the dust raised by camel and donkey convoys bringing corn to market; before the hot weather came again a change in means of transport had taken place. Several bridges had been thrown across the Euphrates in the Feluja-Ramadie area; on December 21 (1917) a railway from Baghdad to Feluja was completed; a branch line from Feluja to Hillah was opened in the middle of 1918. This railway passed by the ruins of Babylon, where for years before the war German archæologists had been disinterring the city of Nebuchadnezzar—and of vastly earlier settlements. For the present the British official had more urgent work than archæology in hand, though provision was made for the protection of all ancient sites. But the pressing occupation was the agricultural development of the Hillah area, where is the great Hindiah barrage, at the point where the Euphrates divides into the Hillah and Hindiah branches. Engineering details need not here be given, but by means of the barrage and subsidiary canals it was estimated that fully 6,000,000 acres of land could be brought under cultivation by the prevention of floods and the direction of the water into useful channels. The barrage itself, as stated, was completed under Turkish rule, but the new branch canals had not been dug, nor the old canals repaired. To the recently constituted Irrigation Department was given the control of affairs.* The first task was the repair of old canals; "the work done," said General Marshall, "can only be described as extraordinary." That was written in April, 1918, and during the following months the work progressed in even more remarkable fashion. Some 14,000 Arabs were employed by the department, and the result was that in the first season over 300,000 acres were brought under cultivation and a "bumper" harvest ingathered. Mr. Candler, who traversed the whole region before the reaping of the corn, shows the new order evolving

* Mention should be made, in connexion with agricultural development, of the initiative displayed and the valuable work done by Mr. C. C. Garbett, I.C.S., first Revenue officer.

A TYPICAL "WATER LIFT" IN MESOPOTAMIA.
This particular example was photographed at Ctesiphon.

—that order which was certain to have effects reaching far beyond the Euphrates and to bring into line against the Turks many waverers in the Syrian Desert. After describing the irrigation works Mr. Candler said :—

The Arab cultivators welcome the new *régime*. Their property, which has lain fallow for years, will become rich and profitable. All the summer and autumn they were busy getting their water channels clear. Nearly every able-bodied man in the district is working for us. . . . The Arab knew the Turk would do nothing for him, and he would not pay him revenue if he could help it ;

FROM THE MEDITERRANEAN TO THE PERSIAN GULF.

but the collection of revenue on the Euphrates no longer calls for an armed force. Paying taxes has become an investment. For there is no cultivator in the world who will not lend a hand at getting water into his own fields. The Arabs appreciate the art of irrigation, though they do not excel in it ; and we have come to them on the Euphrates as fertilizers of the soil. An old sheikh said the other day :—" No other Government but the British would take the trouble to bother about our water while they were fighting."

I have been down the Hillah branch as far as Samawa, and the Hindiah as far as Kifil and Kufa, and saw armies of men busy with spades—the scoop on the long six-foot pole by which the Arab is eternally adjusting his irrigation channels and coaxing the water on to the fields. The rich belts of cultivation on the edge of the desert were refreshingly green. Everywhere the sheikhs insisted that we should dine or drink coffee with them ; and they dragged us into their mud towers and spread carpets for us by the hearth while they roasted and pounded and distilled the coffee, pouring it from one peaked pot to another with all the unction of a rite. Old memories of the Arabs were revived, their eagerness to entertain the stranger and to sit and gossip with him, and we marked the docility of their ponies, which will jump in and out of a boat like a cat or a dog, and are just as much members of the family.

We travelled along, sailing when the wind was favourable, or on horseback, or by motor-car where there was a track, switchbacking over the innumerable bridges of the watercuts. It was a pleasant change after the desolate country through which we had slowly fought our way up the Tigris during the last three years, and the best part of it was the visible and audible happiness of the Arabs. Our ponymen sang joyously as we rode over the uninspiring plain, and the chant of our boatmen at night was answered by the fellaheen singing to their buffaloes at the water lifts which have been creaking for months like drunken violins.

When the British occupied Basra, and especially as they extended their rule up the Euphrates, they came, inevitably, into relationship not only with the riverain tribes, but also with the tribes of Central Arabia and the Syrian Desert. The character of their country does not permit those Arabs to lead a life of isolation in desert freedom, indifferent to the outside world. The resources of Nejd and of the Syrian Desert might suffice for a race such as the Bushmen of South Africa, but they are inadequate to supply the needs of a civilized people. And it is through Basra and the ports of the Persian Gulf that the Arabs of Nejd trade, obtaining thence the clothing, household goods and the arms they require, for in Central Arabia manufactures and industries are virtually non-existent. It is true that, with the building of the Hedjaz railway, Hail, the largest town in north central Arabia and the capital of the Shammar tribe, had been brought within a week's journey of Damascus, but the commercial intercourse of the Shammar remained with Nasiriyeh and Suk-el-Sheyuk, on the Euphrates, and Basra on the Shatt-el-Arab. That of Riadh, the other great centre of population in Nejd, is with Basra, Koweit and Katif, the last the chief port in what was the Turkish vilayet of El Hasa, on the Persian Gulf south of Koweit.

The connexion between the Arabs of the Syrian Desert—the great Anaza confederation—and Mesopotamia is even more intimate. The Anaza are pure nomads, tent-dwellers without abiding cities, the Syrian Desert—chiefly consisting of grassy steppes—affording pasturage for their herds and flocks. They hold intercourse both with Syria and Irak (Mesopotamia), the Amarat, the division roaming the region nearest the Euphrates, trading with Nejef, Kerbela, Ramadie and Hit. When in the height of the dry season the grass withers and water is scarce the Bedouin, too, draw nearer the river and encroach on the permanently watered pastures. Some of the sheikhs own house property in the towns and palm groves by the river. Nor is there any sharply defined frontier between their lands and those of the

[Official photograph.

ROOFS OF SUN-BAKED CLAY AT ZOBEIR.

fellaheen. Both are of the same race, and after the winter rains many of the villagers, leaving their palm gardens or rice fields, go with their flocks to the grazing grounds of the desert. A consideration of these facts makes clear the potent influence British intervention in Mesopotamia was certain to have upon the fortunes of Eastern and Central Arabia and the Bedouin of the Syrian Desert.

British interests in Arabia were already extensive when the great war began, but were almost entirely confined to the regions bordering the seas. Political relations with the princes of the interior were hampered by the traditional pro-Turkish policy of British statesmen, and even in the dealings with Koweit, a maritime State which came into prominence with the suggestion that its port might be made the Gulf terminus of the Baghdad railway, there was more than once a suspicion that the interests of Koweit might be sacrificed for the sake of an amicable arrangement with Germany. On this point, however, maritime interests and the protection of the trade of Basra and Baghdad with India prevailed. The Sheikh of Koweit, Mubarak ibn Subah, was granted a subsidy, a political agency was established at his capital, and he proved a good friend of the British in troublous times, services recognized by the conferment on him of the K.C.S.I. and the K.C.I.E.* At the same time the British endeavoured to come to a good understanding with the Porte on the Koweit question. Not until November 1914 had Great Britain a clear-cut anti-Ottoman policy. From that date there was no hesitation, and one result was that the British gained a valuable ally in the most powerful of the potentates of Central Arabia, Abdul Aziz ibn Saud, Emir of Nejd, or more commonly Emir of Riadh, from the name of his capital. Ibn Saud, the representative of the Wahib schism, was in many respects the most striking figure in modern Arabian history. He and his house had waged hereditary war with the Ibn Rashids, Emirs of Jebel Shammar (popularly Emirs of Hail), who, in return for lavish favours, supported the cause of the Turks.* Ottoman policy, as ever, was based on making profit out of Arab rivalries. In 1872 the then Emir of Riadh, who had, for the second time, been deposed, appealed to the Vali of Baghdad for Ottoman support, and this appeal led to the reassertion of Turkish claims to sovereignty over Nejd. But though the Turks seized El Hasa, on the Persian Gulf, they sent no troops to Nejd, where the rival factions were left to fight out their own

* Sheikh Mubarak died on November 28, 1915, having lived to see the complete defeat of the Turkish designs against Koweit. The new Sheikh, Salim ibn Mubarak, worked loyally with the British.

* In 1818 Ibrahim Pasha (son of Mehemet Ali), advancing from the Hedjaz, conquered Nejd and temporarily crushed the Wahhabites. Six years later the Wahhabites' state was re-established with Riadh as its capital; by 1842 all semblance of Egyptian or Turkish rule had disappeared from Central Arabia. Abdallah ibn Rashid, who had helped the Ibn Sauds to recover their authority, was appointed governor of Jebel Shammar. He founded a dynasty, assumed independence, and Hail became for years more important than Riadh, which was torn by internal dissensions.

[Official photograph.

A BRITISH COLUMN MARCHING THROUGH BAGHDAD.

quarrels. In 1891, as a result of a complete defeat of his enemies, Mahommed ibn Rashid, grandson of the founder of the Hail dynasty, became supreme throughout northern and central Arabia, and so remained until his death in 1897. The Turks supported the winning side, and the alliance with the Ibn Rashids was strengthened after Mahommed's death, when the Sheikh Mubarak of Koweit and Ibn Saūd combined against Hail. How Abdul Aziz ibn Saud, who while Mahommed ibn Rashid lived had been a fugitive, regained his capital Riadh and re-established the supremacy of his house in Nejd cannot be told here. It is already the theme of song and story among the Arabs from Damascus to the Yemen. The Turks in 1904 sent columns from Medina and from Basra to the help of the Emir of Hail, but the campaign ended in negotiations, not fighting, and the power of Ibn Saud grew while that of the Ibn Rashids declined. In 1913 he swept the Turks from the Persian Gulf (the remnants of the garrisons being rescued by British ships). Ibn Saud naturally welcomed the strengthening of his cause which the presence of the British at Basra afforded, and being assured of British friendship he formally broke all ties with Constantinople, asserting his complete independence.

At the outset there was some difficulty in establishing communications with Ibn Saud *via* Basra, for certain of the Arab tribes on the lower Euphrates aided the enemy.* But after the defeat of the Turks at Shaiba, near Basra, in April 1915 these Arabs turned against them, and with the subsequent occupation of Nasiriyeh and Suk-el-Sheyuk ("the market of the Sheikhs") on the Euphrates and of their desert outposts, Khamiseh and Zubair (Zobeir),† the situation was changed. The manner in which the tribes of the lower Euphrates thereafter accepted British rule has already been told. The Shammar tribes who had sided with the "Beni-Osmans" (Turks) found their chief sources of supply cut off, while Ibn Saud was able to carry on with energy his campaign against Hail—a desert warfare without chroniclers. By the end of 1917 Ibn Saud was master of the great part of Jebel Shammar, and sections of the Shammar tribe had repudiated their allegiance to Ibn Rashid—a young and weak man who for over a year dared not set foot in his capital.

Ibn Saud came into line, too, with the larger Arab movement. When the Grand Sherif of Mecca took the decisive step of renouncing allegiance to the Ottomans he had the support of the Emir of Nejd. Wahibite and Sunnite were at least united in their hatred of the Turk. If Ibn Saud had hitherto shown no marked interest in the Arab Reform movement he was indignant at the Turanian campaign of the "Committee of Union and Progress" and the flouting of all Arab demands by the Majliss (Turkish Parliament). He knew that Unionist members of the Majliss had described the Arabs as "a negligible quantity" and refused facilities for the teaching of Arabic; also that an envoy of Enver's had told the Emir Abdulla that they (the Unionists) had taken their precautions, for "if the Arab traitors were to be allowed power in the Empire then all our hopes and our people [the Turks] would be consigned to perdition."* Further, he was informed of the contents of a document which fell into the hands of the Emir Zeid during the operations against Medina, and plainly disclosed the Anti-Islamic ambitions of the Young Turks. Dated April 24, 1916, this document, addressed "to the branches of the Turk-Ojaghi Society and the travelling delegates," opened with the following statement:—

> That monstrous figment of imagination which is known as the Community of Islam, and which has for long past stood in the way of present progress generally, and of the realization of the principles of Turanian Unity in particular, has now entered on a phase of decline and ruin. We need not apprehend from it any further danger to the execution of our hopes and principles.†

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* See Vol. X, Chapter CLVIII, *ab initio*.

† Zubair, an ancient walled city, built on a gravel ridge close to the mud flats of the lower Euphrates, is familiar to many visitors to Basra, from which it is only nine miles distant. Near by is Shaiba (the scene of the defeat of the Turkish-Arab force in April 1915), where are the summer residences of some half-dozen noble Arab families, each a miniature desert fortress. The largest of these buildings, which are built among tamarisk trees, was taken over by the Red Cross. In a carefully tended cemetery lie the British dead. In spring the desert is gay with dwarf blue iris, asphodel, and other flowers.

* Taleb Bey el Nakib, the Deputy for Basra, in a letter to the Sherif of Mecca, described the proceedings in the Majliss in 1912 as evidence that the Unionists wished that "the Arabs might be wiped out leaf and root." The Emir Abdulla, writing to his father from Constantinople about the same incident, said, "Who ever thought that I should hear . . . threat and intimidation on account of certain legitimate demands laid before the Majliss by the Deputy for Jiddah? The fact of these demands being purely Arab made the Unionists fly into a rage and foam. . . ." Abdulla then narrated his interview with the envoy of Enver. These documents were made public in Mecca in October 1916.

† This document, which gave particulars of the manner in which "our Turanian community" was trying to corrupt the Moslems of India, was found among

Cooperation among the Arabs was facilited by the moderation of the Sherif of Mecca. His assumption of the title King of the Hedjaz, instead of Sultan of Arabia, as originally proposed, indicated the limits of his territorial claims. The Arab national movement was to be realized in a confederacy of independent States of which Nejd would be not the least important.

The Turks gave what aid they could to their *protégé* the Emir Ibn Rashid. Men, munitions and goods were sent from Damascus along the Hedjaz railway to El Ala, whence caravans were sent across the 200 or more miles of desert to the oasis of Hail. They helped Ibn Rashid to keep the field, but communications were uncertain and dangerous, for the Hedjaz Arabs took every occasion to attack the caravans. Five convoys aggregating 1,500 camels fell into the hands of the Emir Ali in April-July 1918 alone. Early in 1918, too, the Emir Abdulla led a force towards Jebel Shammar and inflicted a severe defeat on the Hail troops. The junction of the forces of the Emir Ibn Saud with those of the King of the Hedjaz made the British-Arab front practically complete from the Persian Gulf to the Mediterranean. The Turks dented it about Hail, and pierced it farther west by the occupation of Medina and places on the railway in northern Hedjaz. But here Turkish tenure was rendered very precarious by the union established between the Arabs and British. This was evidenced when in August 1918 Arab troops and units of the Imperial Camel Corps made a joint attack on Mudwera, a station on the Hedjaz railway within the borders of Arabia.

In the Syrian Desert the influence of the Turks waned considerably after the occupation of Ramadie, and the heavy blows they received in the subsequent advance of the British along the Aleppo road. They did not lose all their influence in the northern part of the desert, because as the British column withdrew they reoccupied the posts along the Euphrates between Jerablus—where the Baghdad railway crossed the river by a bridge completed in 1915—and Khan Baghdadie. Djemal Pasha and Liman von Sanders kept open, that is, as far as they were able, a line of penetration by the Euphrates, but their main effort was the preservation of Syria. To this end they bent their energies to prevent the advance northward through Palestine of General Allenby. They showed particular anxiety to preserve their control over the northern section of the Hedjaz railway, that part which goes from Damascus to Ma'an along the eastern fringe of the Syrian Desert. This was not only because it was of great use in their Palestine operations proper, but also because as long as they held it direct cooperation between the Palestine and Mesopotamia forces was not possible. But the armies of General Allenby and of the King of the Hedjaz were already linked up, and substantial progress by those forces would not only completely cut off the Turks in Arabia and threaten Syria but would also affect the position in Upper Mesopotamia.

The trial of strength in this theatre of operations came in the autumn of 1918. There had been raids by the British and the Arabs in the spring on the Hedjaz railway and sharp fighting west of the Jordan, but it was not until September 18 that General Allenby took the field again in full force. Concurrently the army of the King of the Hedjaz moved. A strong detachment of Arabs, descending on the railway junction of Der'aa, severed the communications leading north (to Damascus), south (to Ma'an and Medina), and west (to Samaria and Haifa). The importance of this action in relation to Mesopotamia will be understood when it is realised that the Hedjaz Arabs could not have operated so many hundred miles from their base without the support of the Bedouin of the Syrian Desert. This swoop on Der'aa, but 70 miles from Damascus, showed that the Anaza and other desert tribes had profited by the double lesson of the pursuit of the Turks up the Aleppo road and the pacification of the lower Euphrates region. Influenced probably by the pro-Turkish attitude of the Emir of Hail, their southern neighbour, they had hitherto remained largely neutral in the war. Now, when all their energies were needed to meet General Allenby's attack, the Germans and Turks found a hostile and highly mobile force on their flank both along the Euphrates and on the Syrian border.

the papers of the District Commandant of Medina, killed in action with the Arabs, and was printed in *Al Kibla*, the organ of the Hedjaz Government. The full text of the document, in English, appeared in *The Near East*, August 31, 1917. *Al Kibla* was edited by Faud Effendi Khatib, formerly Lecturer in Arabic Literature at Gordon College, Khartum.

CHAPTER CCLVII.

THE ANTI-SUBMARINE WAR, 1915-1918.

EARLY MEASURES OF DEFENCE AGAINST THE SUBMARINE—THE "UNRESTRICTED" CAMPAIGN IN 1917—NEW INVENTIONS AND SECRECY—NAMES OF 150 LOST GERMAN COMMANDERS—THE RAM—HOW WEDDIGEN WAS KILLED—USE OF NETS—CHASERS—SUBMARINE SWEEPS—THE GUN—AIRCRAFT—MANY INVENTIONS—ZIG-ZAGGING—SMOKE SCREENS—"CAMOUFLAGE"—TYPICAL FIGHTS—MICROPHONES—HYDROPHONES—MINEFIELDS—DEPTH CHARGES—KITE-BALLOONS—PROOF OF DESTRUCTION—THE CONVOY SYSTEM AND AMERICAN TRANSPORT.

IN an earlier chapter (Vol. XIII., Chapter CXCV.) the atrocious conduct of the Germans in their so-called blockade by submarine was described. It was shown that the manner in which this insidious and deadly form of warfare was utilized for an attack upon the Mercantile Marine of the World, regardless of all considerations of humanity, was a lasting disgrace to the Germans who planned it and carried it into effect. In this chapter the submarine war is reviewed in the light of the successful defence against it on the part of the Allied navies. The various measures taken and means adopted to meet the successive U-boat campaigns are explained, as well as the new inventions which scientific skill and ingenuity had produced and placed at the disposal of our seamen during the four years of the struggle.

It will be shown how at first the threat of von Tirpitz had the benefit of novelty and surprise, in spite of which the original submarine campaign of 1915 was officially declared by the autumn of that year to be "well in hand." The chief measures which produced this result were explained by Grand Fleet officers to include the ram, the net, the gun, and the torpedo, while now and again, in isolated instances, a U-boat owed her fate to aircraft. The lesson of the 1915 campaign was taken to heart even before the attack had been frustrated, and large construction programmes designed to deal with any recrudescence of under-water raiding were put in hand. During the year 1916, however, the Germans were able to take the offensive again in new fields and with improved boats. Tonnage losses then increased more and more until they reached proportions which created genuine alarm.

The German efforts culminated in the "unrestricted" campaign which opened on February 1, 1917, and which had its maximum effect about the middle of April. In the pages which follow there are described its salient features. In particular, the dauntless heroism of the Mercantile Marine is displayed, and the stanch attitude of the seamen. The gradual transformation of this Service from a trading to a fighting force is shown, with the provision of special appliances and methods for defence, such as smoke screens, "camouflaged" hulls, guns and depth bombs, and a special system of convoy. Then there was the revival of the construction of anti-submarine craft and the speeding up of merchant shipbuilding to replace lost tonnage. New instruments such

"GOT HIM!"

Passengers on a liner attacked by a Submarine witness the enemy's destruction by a Destroyer.

as the microphone and hydrophone for detecting the positions of enemy boats came into use. Minefields and barrages to restrict the movements of the submarines in certain areas were also much more widely used. Especially significant was the great advance made in the use of aircraft and their equipment. Illustrations are given under these various heads which will bring home to the reader how crucial was the test applied to our sea power and how nobly the British seamen maintained the traditions of their forefathers and made possible the success of the Allied cause in the war by keeping open our sea communications.

Until August 7, 1918, the public had only been told in vague, general terms of the success achieved by the counter-measures against German submarines. Frequent demands had been made for light on this phase of the subject, it being pointed out that the constant reports of mercantile loss and suffering on the one hand, and the almost complete silence regarding the work of the Allied navies on the other, had a misleading influence on the minds of the people as to the actual position of affairs. But for reasons which the authorities considered sufficient, and which certainly had a disturbing effect upon the *moral* of the German seamen, the Admiralty preserved silence until it was clear beyond doubt that the peril had been averted and the menace held. Mr. Lloyd George then announced that "at least 150 of these ocean pests have been destroyed." His statement was, as usual, challenged in Germany, whereupon the Admiralty issued the names of the commanding officers of 150 boats which had been accounted for. Of these officers, 116 were dead, 27 prisoners, six interned in neutral countries, and one had managed to return to Germany. The list was as follows:

Albrecht, Kurt	Kapitänleutnant	Dead.
Albrecht, Werner	Oberleutnant z.S.	Dead.
Amberger, Gustav	Kapitänleutnant	P.W.
Amberger, Wilhelm	Oberleutnant z.S.	Dead.
Arnold, Alfred	Oberleutnant z.S.	P.W.
Bachmann, Günther	Oberleutnant z.S.	Dead.
Barten, Wilhelm	Oberleutnant z.S.	Dead.
Bauck, W.	Kapitänleutnant	Dead.
Bauer, Cäsar	Kapitänleutnant	Dead.
Bender, Waldemar	Kapitänleutnant	

This officer was not lost when his submarine sank, and he succeeded in returning to Germany.

Berckheim, Egewolf, Freiherr von	Kapitänleutnant	Dead.
Berger, Gerhardt	Kapitänleutnant	Dead.
Bernis, Kurt	Kapitänleutnant	Dead.
Branscheid, Albert	Oberleutnant z.S.	Dead.
Braun, Charles	Oberleutnant(Res.)z. S.	Dead.
Breyer, Herbert	Oberleutnant z.S.	P.W.
Buch, Gustav	Kapitänleutnant	Dead.
Degetau, Hans	Oberleutnant z.S.	Dead.
Dieckmann, Victor	Kapitänleutnant	Dead.
Ditfurth, Benno von	Oberleutnant z.S.	Dead.
Edeling, Karl	Kapitänleutnant	Dead.
Ehrentraut, Otto	Oberleutnant z.S.	Dead.
Eitester, Max	Kapitänleutnant	Dead.
Feddersen, Adolf	Leutnant z.S. (Res.)	Dead.
Fircks, Wilhelm, Freiherr von	Kapitänleutnant	Dead.
Fischer, Karl-Hanno	Leutnant z.S.	Dead.
Fröhner, Eberhardt	Leutnant z.S.	Dead.
Fürbringer, Gerhardt	Kapitänleutnant	P.W.
Fürbringer, Werner	Kapitänleutnant	P.W.
Gaister, Hans	Oberleutnant z.S.	Dead.
Gebeschus, Rudolf	Kapitänleutnant	Dead.
Gercke, Hermann	Korv. Kapitän	Dead.
Gerlach, Helmut	Kapitänleutnant	Dead.
Gerth, Georg	Kapitänleutnant	P.W.
Glimpf, Hermann	Oberleutnant z.S.	Dead.
Graeff, Ernst	Kapitänleutnant	P.W.
Gregor, Fritz	Oberleutnant z.S.	Dead.
Gross, Karl	Oberleutnant z.S.	Dead.
Günther, Paul	Oberleutnant z.S.	Dead.
Güntzel, Ludwig	Kapitänleutnant	Dead.
Günzel, Erich	Kapitänleutnant	Dead.
Haag, Georg	Leutnant z.S.	Dead.
Hansen, Klaus	Kapitänleutnant	Dead.
Hartmann, Richard	Kapitänleutnant	Dead.
Hecht, Erich	Oberleutnant z.S.	Dead.
Heinke, Curt	Oberleutnant z.S.	Dead.
Heller, Bruno	Oberleutnant z.S.	Dead.
Hennig, Heinrich von	Kapitänleutnant	P.W.
Heydebreck, Karsten v.	Oberleutnant z.S.	Dead.
Hirzel, Alfred	Oberleutnant z.S.	Dead.
Hoppe, Bruno	Kapitänleutnant	Dead.
Hufnagel, Hans	Kapitänleutnant	Dead.
Keyserlingk, Harald von	Oberleutnant z.S.	Dead.
Kiel, Wilhelm	Oberleutnant z.S.	Dead.
Kiesewetter, Wilhelm	Kapitänleutnant (Res.)	Intrd.
Klatt, Alfred	Oberleutnant z.S.	Dead.
Kolbe, Walther	Oberleutnant z.S.	Dead.
Konig, Georg	Kapitänleutnant	Dead.
Korsch, Hans Paul	Oberleutnant z.S.	Dead.
Kratzsch, —	Kapitänleutnant	Dead.
Krech, Günther	Kapitänleutnant	P.W.
Kreysern, Günther	Oberleutnant z.S.	Dead.
Kroll, Karl	Korv. Kapitän	Dead.
Küstner, Heinrich	Oberleutnant z.S.	Dead.
Lafrenz, Claus P.	Kapitänleutnant	P.W.
Launburg, Otto	Oberleutnant z.S.	P.W.
Lemmer, Johannes	Kapitänleutnant	Dead.
Lepsius, Reinhold	Oberleutnant z.S.	Dead.
Lilienstern, Rühle v.	Oberleutnant z.S.	Dead.
Lorenz, Helmuth	Oberleutnant z.S.	Intrd.
Lorenz, Hermann	Kapitänleutnant	Dead.
Löwe, Werner	Oberleutnant z.S.	Dead.
Lühe, Vicco von der	Oberleutnant z.S.	P.W.
Menzel, Bernhard	Oberleutnant z.S.	Dead.
Metz, Artur	Oberleutnant z.S.	Dead.
Metzger, Heinrich	Kapitänleutnant	Intrd.
Mey, Karl	Oberleutnant z.S.	Dead.
Mildenstein, Christian	Oberleutnant z.S.	Dead.
Moecke, Fritz	Oberleutnant z.S.	Dead.
Mohrbutter, Ulrich	Oberleutnant z.S.	P.W.
Moraht, Robert	Kapitänleutnant	P.W.
Mühlau, Helmuth	Kapitänleutnant	P.W.
Muhle, Gerhardt	Kapitänleutnant	Dead.
Müller, Hans Albrecht	Oberleutnant z.S.	Dead.
Neumann, Friedrich	Oberleutnant z.S.	P.W.
Niemer, Hans	Oberleutnant z.S.	Intrd.
Niemeyer, Georg	Oberleutnant z.S.	Dead.
Nitzsche, Alfred	Oberleutnant z.S.	Dead.
Noodt, Erich	Oberleutnant z.S.	P.W.
Petz, Willy	Kapitänleutnant	Dead.

Platsch, Erich ...	...	Oberleutnant z.S. ...	Dead.
Pohle, Richard ...	...	Kapitänleutnant ...	Dead.
Prinz, Athalwin	...	Kapitänleutnant ...	Dead.
Pustkuchen, Herbert	...	Oberleutnant z.S. ...	Dead.
Reichenbach, Gottf'd	...	Oberleutnant z.S. ...	Dead.
Reimarus, Georg	...	Oberleutnant z.S. ...	Dead.
Remy, Johannes	...	Kapitänleutnant ...	Dead.
Röhr, Walther ...	...	Kapitänleutnant ...	Dead.

KAPITÄNLEUTNANT RUDOLF SCHNEIDER,
Who sank the Arabic.

Rosenow, Ernst	...	Kapitänleutnant ...	Dead.
Rücker, Claus ...	...	Kapitänleutnant ...	Dead.
Rumpel, Walther	...	Kapitänleutnant ...	Dead.
Saltzwedel, Rudolf	...	Oberleutnant z.S. ...	Dead.
Sebelin, Erwin ...	...	Kapitänleutnant ...	Dead.
Seuffer, Rudolf	...	Kapitänleutnant ...	Dead.
Schmettow, Graf von	...	Kapitänleutnant ...	Dead.
Schmidt, Georg...	...	Kapitänleutnant ...	Dead.
Schmidt, Siegfried	...	Oberleutnant z.S. ...	Dead.
Schmidt, Walther G.	...	Oberleutnant z.S. ...	Intrd.
Schmitz, Max ...	...	Oberleutnant z.S. ...	Dead.
Schmitz, Walther	...	Oberleutnant z.S. ...	P.W.
Schneider, Rudolf	...	Kapitänleutnant ...	Dead.

This was the officer who torpedoed the s.s. Arabic on August 19, 1915.

Schultz, Theodor	...	Oberleutnant z.S. ...	Dead.
Schürmann, Paul	...	Oberleutnant z.S. ...	Dead.
Schwartz, Ferdinand	...	Oberleutnant z.S. ...	Dead.
Schweinitz und Krain. Graf von	...	Kapitänleutnant ...	Dead.
Schwieger	...	Kapitänleutnant ...	Dead.

This was the officer who, whilst in U-20, torpedoed the Lusitania on May 7, 1915. U-20 was lost on the Danish coast in November, 1916, but Kapt. Lt. Schwieger survived to bring disaster to another submarine—viz., U-38, which was lost, with all hands, in September, 1917.

Sittenfeld, Erich	...	Kapitänleutnant ...	Dead.
Smiths, Wilhelm	...	Oberleutnant z.S. ...	P.W.
Soergel, Hans ...	...	Oberleutnant z.S. ...	Dead.
Sprenger, —	...	Kapitänleutnant ...	P.W.
Steckelberg, Oscar	...	Oberleutnant z.S. ...	Intrd.
Stein zu Lausnitz Freiherr von	...	Oberleutnant z.S. ...	Dead.
Steindorff, Ernst	...	Oberleutnant z.S. ...	Dead.
Stenzler, Heinrich	...	Oberleutnant z.S. ...	Dead.
Stosberg, Arthur	...	Oberleutnant z.S. ...	Dead.
Stoss, Alfred ...	...	Kapitänleutnant ...	P.W.
Stöter, Karl ...	...	Oberleutnant z.S. ...	Dead.
Stuhr, Fritz ...	...	Kapitänleutnant ...	Dead.
Suchodoletz, Ferdinand von ...	...	Kapitänleutnant ...	Dead.
Tebbenjohanns, Kurt ...		Kapitänleutnant ...	P.W.
Träger, Friedrich ...		Oberleutnant z.S. ...	Dead.
Utke, Kurt ...	...	Oberleutnant z.S. ...	P.W.
Valentiner, Hans	...	Oberleutnant z.S. ...	Dead.
Voigt, Ernest ...	...	Oberleutnant z.S. ...	Dead.
Wachendorff, Siegfried		Oberleutnant z.S. ...	Dead.
Wacker, Karl ...	...	Oberleutnant z.S. ...	Dead.
Wagenführ, Paul	...	Kapitänleutnant ...	Dead.

This was the officer who sank the s.s. Belgian Prince on July 31, 1917, and so barbarously drowned forty of the crew, whom he had ordered to line up on the submarine's deck. The submarine (U-44) was sunk, with all hands, about a fortnight after this outrage.

Walther, Franz...	...	Oberleutnant z.S. ...	Dead.
Weddigen, Otto	...	Kapitänleutnant ...	Dead.
Wegener, Bernhard	...	Kapitänleutnant ...	Dead.
Weisbach, Erwin	...	Kapitänleutnant ...	Dead.
Weisbach, Raimund	...	Kapitänleutnant ...	P.W.
Wendlandt, Hans H.	...	Oberleutnant z.S. ...	P.W.
Wenninger, Ralph	...	Kapitänleutnant ...	P.W.
Wigankow, Günther	...	Oberleutnant z.S. ...	Dead.
Wilcke, Erich ...	...	Kapitänleutnant ...	Dead.
Wilhelms, Ernst	..	Kapitänleutnant ...	Dead.
Willich, Kurt ...	...	Kapitänleutnant ...	Dead.
Wutsdorff, Hans Oskar		Oberleutnant z.S. ...	P.W.
Zerboni di Sposetti, Werner von	...	Oberleutnant z.S. ...	Dead.

To the families of the men included in the above list it was known that its correctness could not be gainsaid. The official statement also added the names of others, guilty of particularly despicable outrages, whose names were known to the Admiralty, and in regard to whom special efforts were being made to bring their careers to a swift end. Among these were :

1. Korvettenkapitän Max Valentiner, who was responsible for the barbarous sinkings, amongst others, of the Norwegian s.s. Magda, the Spanish s.s. Pena Castillo, the Italian s.s. Ancona, and the British s.s. Persia.

KAPITÄNLEUTNANT SCHWIEGER,
Who torpedoed the Lusitania.

2. Kapitänleutnant Wilhelm Werner, who excelled in the sinking of hospital ships.
3. Korvettenkapitän Freiherr von Forstner, who, when in command of U28, sank the British steamers Falaba and Aguila under circumstances of the utmost brutality.

By these remarkable revelations the efficiency and success of the British countermeasures were brought home to the public in a convincing manner, and it was realized to what good purpose the seamen of the Allies, during a period of three and a half years, had opposed the enemy campaigns.

The threat of Grand Admiral von Tirpitz to blockade the British Isles was based on the early successes of the submarines, successes which were as unexpected by the enemy as by most people everywhere. Submarine attacks on men-of-war failed within a few months, but what the U-boats could no longer do against warships it was then decided to do against trading vessels. So far as is known, the boats used at that time were comparatively small, and few in number. Probably not more than 50 or 60 submarines were operating at the height of the first campaign, which formally began on February 18, 1915. It was known that only 25 to 30 submarines were completed for the German Navy when war broke out, and assuming that a similar number were added during the first six months of hostilities, the combined figure probably represented the maximum which the Germans had at their disposal in the first campaign.

The attempt had already been made to interfere with the Channel ferry, but this had been thwarted, and the measures and means then organized or improvized, developed on a larger scale, were ready to meet the new menace. The earliest authoritative statements regarding these measures were made by the admirals in the Grand Fleet to visitors who were permitted to visit the ships in August, 1915. These visitors learnt that auxiliary craft to the number of 2,300 had been taken up for service as mine-sweepers, patrol boats and the like, around the British Isles—to the vicinity of which the original campaign was restricted. Mr. Frederick Palmer, an American journalist, described how the places of attacks on submarines had been marked on charts, with the results classified under "Captured," "Sunk," and "Supposed Sunk," and these successes were obtained by gunfire, by ramming, by nets, by explosive bombs, and in other ways. M. René Bazin, in the *Echo de Paris*, declared that one-half the original submarine flotilla of Germany had been accounted for, and M. Mille, in the *Temps*, referred to the loss of skilled personnel as great and irreparable. The ever-candid Captain Persius made a significant admission in the *Berliner Tageblatt* on August 11, 1915, which gave a clear indication of the outcome of the British anti-submarine achievements. From an expert estimate of the efficacy of the submarine, he declared that the success and effect of the new naval warfare could only appear after a considerable time. There was no more

KORVETTENKAPITÄN MAX VALENTINER,
"Wanted" for sinking the Persia and other ships.

complicated fighting instrument than the U-boat, he argued, which meant that the task of commanding and managing it was not simple, or easily learnt, and, therefore, some time must elapse before the commander and crew were familiar with their craft. "The British," said Captain Persius, "would only be accused by a child of being bad mariners; they know how to defend themselves, so have devised many kinds of protective measures. It becomes more and more difficult for U-boats to get near hostile ships and launch a torpedo. Almost fabulous skill is required to avoid all the pitfalls, etc., and get away from torpedo-boat destroyers, and nevertheless make a successful attack." The prime movers in the defeat of the original submarine campaign were Mr. Churchill and Lord Fisher. In a speech on March 7, 1916, Mr. Balfour, then First Lord, stated that quite early in the war

the necessity of building more small craft, destroyers, and light cruisers was foreseen by the Admiralty and action taken.

The supremely important thing in the Allied counter-measures was to discover the movements of the submarine. In the early days, this could only be done by sighting the boat, or its periscope, or fishing for it with nets. Later on, in addition to dragging, the microphone or hydrophone for listening came into general use, but still better appliances were hoped for. A great improvement in regard to the sighting of submarines was also obtained by the extended use of aerial craft.

But at first the offensive measures were briefly, the ram, the net, the gun, and the torpedo. The first submarine reported to have been destroyed in the war was the U15, sunk by the light cruiser Birmingham on August 10, 1914, while endeavouring to attack one of the squadrons of the Grand Fleet. This early success was gained by the use of the gun, after the enemy submarine had been sighted from the Birmingham. The periscope was observed by the latter, and a remarkable feat of markmanship blew it away. The blinded submarine was forced to come to the surface, where she fell a comparatively easy prey to the cruiser.

Another early success against the U-boats illustrated the use of the ram. On November 23, 1914, the U18 was reported off the northern coast of Scotland, by a patrol vessel, which at 12.20 p.m. succeeded in ramming the boat. She was not sighted again until 1.20, when she came to the surface, and was seen with her crew on deck, flying the white flag. Shortly after this she foundered, just as the destroyer Garry came alongside and rescued three officers and 23 of her crew, one only being drowned. The commander of the boat, Kapitänleutnant H. von Hennig, was among the prisoners.

A GERMAN SUBMARINE UNDERGOING REPAIRS.

Two other cases of the destruction of German submarines of an early type by ramming occurred on March 10 and March 25, 1915. On the first occasion, U12 was rammed and sunk by the British destroyer Ariel, Lieut.-Commander J. V. Creagh, 10 members of the crew being saved and made prisoners. This incident occurred in or near the Firth of Forth, and in connexion with the sinking the Admiralty gave awards to certain Leith trawlers, for the assistance they had rendered in the tracking of the U-boat. The second example resulted

BUOYS AND SINKERS FOR THE SUBMARINE NETS.

in the death of the famous German submarine commander, Otto Weddigen, formerly commanding U9. From this boat, in which he sank the three Cressys in September, 1914, Weddigen was transferred to U29, which in March, 1915, was rammed and sunk in the open sea by the battleship Dreadnought, whilst attempting to attack a portion of the Grand Fleet. German stories circulated in the United States over a year later represented that Weddigen was sunk with his submarine in Cromarty Firth, where he had torpedoed a battleship of the Dreadnought class, and into which he had managed to penetrate after negotiating a complicated defence net system. This was an entire fabrication, as the Admiralty declared on August 4, 1916. Such were typical instances of U-boats falling victims to warships using the ram. The conditions under which this weapon of attack could be used became much more rare after the first phase of the submarine war, and other offensive measures came into vogue instead. In the early days, however, the destroyer was the principal assailant of the U-boat. Later on came the trawlers, patrol vessels, and eventually the motor boats and launches.

Another useful and effective means of catching the submarines was by the use of nets. Perhaps one of the best illustrations of the employment of such nets was given by a German submarine commander, Kapitänleutnant Wenninger, in an interview with M. Landauer, a Hungarian war correspondent, in January, 1916. An officer of the same name was among the 150 U-boat commanders referred to by the Admiralty on September 6, when he was shown to be a prisoner of war. Describing his adventure in the British nets, Wenninger stated that he left his base early one morning and passed into the North Sea, the boat being under water, with her periscope awash. His story is best told in his own words:

I looked through the periscope (he continued) and could see a red buoy behind my boat. When, ten minutes later, I looked I saw the buoy again, still at the same distance behind us. I steered to the right and then to the left, but the buoy kept on following us. I descended deep into the water, but still saw the buoy floating on the surface above us. At last I discovered that we had caught the chain of the buoy and that we were dragging it along with us. At this time I also saw through the periscope a strange, small steamer, which, at a considerable distance, was steering a course directly behind us and the buoy. At the same time my sounding apparatus indicated that a screw steamer was in the vicinity. Observation soon revealed the fact that five enemy torpedo-boats were approaching from the north. I increased the speed of the boat, in the expectation of being able to attack one of them. The five torpedo-boats arranged themselves in a semicircle. I sank still deeper, and by pumping obtained better air. I got ready for all eventualities. At this juncture my boat began to roll in a most incomprehensible manner. We began to rise and sink, the steering gear being apparently out of order. Soon after, however, I found that this was not the case, and that we had a still more serious position to face. I discovered that we had encountered a wire netting, and that we were entangled in it in an almost hopeless manner. We had, in fact, got into the net of one of the hunters surrounding us. For an hour and a half the netting carried us with it, and although I made every effort to get clear of it, rising and then sinking with the object of getting to the bottom of the netting, it was all in vain, for we were always dragged back, sometimes to the right and sometimes to the left.

There was nothing else for me to do but to increase the weight in the submarine as much as possible, so that I might try to tear the netting. Fortunately when we started I had pumped in from five to six tons of water, filling all the tanks. I increased the weight of the boat to the utmost, and suddenly we felt a shock and were clear of the netting. I then descended as deeply in the water as I could, the menometer showing 15 fathoms. We remained under the water for eighteen hours. When I wanted to ascertain where we were I noticed that my compass was out of order. For a time I steered by the green colour of the water, but at last I had to get rid of ballast in order to rise. My manometer still, however, showed fifteen fathoms, and although I felt that we were rising it always showed the same depth. This instrument also, it was evident, was out of order. I had therefore to be very careful not to rise too high and thus attract the attention of the torpedo-boats. Slowly the periscope rose above the surface, and I could see the enemy in front of me, and towards the left the East Coast of England. I tried to turn to starboard, but the rudder did not work. In consequence I had to sink again to the bottom of the sea, where I remained for six hours, at the end of which time I had succeeded in putting the compass in order and also in repairing the steering gear. Once more I rose in the water until I could see through the periscope. A torpedo-boat, however, detected me at once, and made straight for me. At this time the position was that on the right, at a distance of about a mile and a half, the torpedo-boats were in line up, while on the left, at about the same distance, was the English coast. I immediately descended again to a depth of fifteen fathoms. I remained submerged for two hours, then slowly turned outwards, and at a distance of some fifty yards from the leading enemy craft passed towards the open sea. At nine o'clock in the evening we were able to rise to the surface in safety.

In the American papers at this time there appeared accounts of the wire netting used by British warships. It was stated to have been made of galvanized material, with a 15-foot mesh. It was cut into lengths of 170 feet, with a depth of 27 feet. On top of this netting were lashed great blocks of wood. Oil-burning destroyers of great speed were used in pairs to patrol with sections of the netting stretched between them. On a submarine's periscope being sighted, the destroyers slackened speed at a distance of a mile or less, and as soon as the course of the submarine could be obtained by observing the continuous movements of her periscope, the destroyers got ahead of her, and cut away the lashings which held the ends of the netting to the vessels. In three cases out of four it was found that the submarine ran directly into this netting. It required a fine judgment to ascertain quickly the submarine's course, and to determine the precise moment to let go the net in order that it might sink below the surface and become entangled around the U-boat. The submarines which fell victims to this means of attack usually took down with them their entire crews. It was not possible in many cases to establish the identity of the respective boats, and in the majority of cases the results of the attacks must have been classed with those of doubtful certainty. Sometimes, how-

[*Official photograph.*

SPLICING WIRE TO BE USED FOR NETS.

ever, it was possible to recover the boats and get them into harbour. On February 10, 1916, for instance, Dr. M. S. Inglis, a Canadian Army surgeon, was reported to have told an interviewer at New York that he had inspected one such boat, the crew of which had been found shot to death after it had been towed into harbour. Dr. Inglis was allowed to descend into this submarine, and had seen the bodies. To save them from death by suffocation, it seemed, the commander had shot all his men and then himself.

MAKING THE MESHES OF SUBMARINE NETS.

The Churchill-Fisher policy which put an end to the German hopes of success with their first submarine campaign in 1915 included the provision of a large fleet of small craft of various kinds to assist in hunting down the submarine at every available opportunity. The principle upon which numerous submarine chasers were employed was that the U-boats had to be hunted and harassed continually in order that they might be given no time in which to hunt and harass the merchant vessels. For this purpose a multitude of fast chasers, varying in size from the big destroyers to the small motor launches, were engaged, so that no sooner did a submarine poke her "eye" above the surface of the water than something was after her hot and strong. As she was slow except on the surface, she was afraid of almost anything which could float and use the ram, the gun, or the torpedo—not to mention the bombs from aircraft.

At first speed and manœuvring ability were regarded as the essential qualities of the small chaser. Her business it was to drive the quarry into the arms of the destroyers, the fighting on the surface being left to them and similar larger craft. As time went on, however, the value of the small chaser was increased very much by additional speed, and the provision of an armament of depth charges to be dropped on or in the vicinity of the U-boats when once their position had been ascertained. In the early days, however, the methods employed, though effective, were rather primitive, and the submarines were generally finished off with the gun, the ram, or the torpedo, as has been described. For example, when the U8 was destroyed off Dover at 5 p.m. on March 4, 1915, the Admiralty announced that this was accomplished by the destroyers of the Sixth Flotilla under Rear-Admiral the Hon. Horace Hood. No fewer than twelve destroyers, the names of which were published on March 9, took part in this hunt, under the direction of Captain C. D. Johnson, commanding the flotilla, and the submarine was finally finished off by the destroyers Ghurka and Maori.

In those days, too, submarine sweeps were in favour, powerful explosives being towed at a certain depth to explode on contact, or small mines being let down a wire hawser which had been towed between two vessels, and which had located the submarine on the sea bottom. Perhaps the mine, or the mined net, accounted for as many submarines as any other method

[Official photograph.

REPAIRING CIRCUITS FOR MOORED MINE NETS.

in the first eighteen months of the war. The value of the nets in the Straits of Dover was shown in Vice-Admiral Sir Reginald Bacon's report, but after a while the submarines learnt to negotiate these nets and get through the Straits, as was admitted by Sir Eric Geddes. A more efficient barrage was, therefore, substituted. It was necessary to watch the nets or barrages and minefields by surface patrol boats, and instances occurred, both in the Dover Straits and in the Adriatic, in which attacks were made on such patrols to clear a way for the submarines.

Chief of the early weapons used against the submarine was the gun. At first carried only by the regular warships, and then by the numerous auxiliary craft which gradually supplemented them, this weapon was afterwards supplied in large numbers to the Mercantile Marine, first to the big ocean-going vessels, and then down to all classes. Mr. Rudyard Kipling described the eagerness of the fishermen to possess guns to tackle the submarines. The fortunate few who had 4-in. weapons clamoured for 6 in., those with 12-pounders were similarly anxious to get 4-in. pieces, and so on, right down from the big passenger or cargo steamer to the humblest drifter. In time the Admiralty were able to satisfy these natural demands, and many spirited encounters with U-boats resulted.

The sort of thing which went on daily in the waters around the British Isles, but in regard to which the Admiralty at the time maintained secrecy, was indicated by a disclosure of the French Ministry of Marine on July 5. On the previous day the patrol boat Hollande observed a submarine in the Channel about six miles north-north-west of Boulogne at 1.55 p.m. Fire was at once opened. The submarine swung round to fire a torpedo, but was hit by two shells at a range of less than a mile. An explosion occurred, and the submarine disappeared. The French *communiqué* claimed that she was certainly sunk, going down in over twenty fathoms.

In scores of instances in which it could not be said with certainty that she was destroyed, a submarine was driven off, and valuable lives and shipping were thereby protected.

What this meant in the daily lives of the people of Great Britain was vividly stated by Sir Arthur Yapp in a speech at Glasgow on November 18, 1917, in which he said:

> For every 100,000 tons of wheat we can save by eating less and wasting nothing something like 28,000 additional troops, with food for the voyage, but not including guns or munitions, could be transported from the United States to the Western front. The average tonnage of

a wheat ship is 6,000. Suppose two ships a week are sunk for a month, then 25,668,264 average bread rations of 4½ lb. would be lost. That would feed on the new bread rations all Scotland for over five weeks, Glasgow for six months, and Edinburgh for one year and five months. A big meat ship could carry, say, 50,000 carcases of sheep, or about 3,500,000 lb., which would keep Glasgow in meat rations alone for nearly two weeks.

On one occasion a U-boat was seen by some armed trawlers to be firing at a fishing fleet several miles away. The trawlers headed for the spot, and on getting the range opened fire, and drew the submarine's attention to them, the fishing vessels being thus allowed to escape. A well-directed shot eventually caused the submarine to submerge. For several months after the first submarine campaign opened the merchant vessels were at a disadvantage in having either no guns at all or only weapons of inferior calibre and power, there being not nearly enough for all to be supplied. Nothing daunted, however, the seamen in the trading ships defended themselves with great courage and skill. Sometimes they utilized the stem as a weapon, and they frequently lured submarines within easy reach of men-of-war by putting up a stubborn defence.

From an early date in the anti-submarine warfare, too, aircraft were used with good effect. This had been anticipated long before the war, for when Louis Blériot was making his first historic trip across the Channel in July, 1909, he saw, near Deal, a line of British submarines under the water, accompanied by destroyers. The first submarine believed to have been destroyed from the air was bombed single-handed by Squadron-Commander A. W. Bigsworth off Ostend on August 26, 1915. Three months later a similar success, although not achieved single-handed, was scored by Lieutenant Viney, R.N., the incident being first reported by Field-Marshal French on November 29. Lieutenant Viney had with him a French officer as observer. On returning to Paris from Dunkirk he gave the following account of his exploit:

It was noon on Sunday [said Lieutenant Viney]. We had left half an hour before on a French biplane to look for submarines which were reported nearby. We rose 10,000 feet, and had been cruising about for some time when we saw two submarines five miles off shore west of Nieuport.

It was an ideal spot for our purpose. The sea was shallow, giving the submarines little chance of escape. By plunging in wide spirals we descended toward one of the boats, which, being above a sand bank, could not dive. She made desperate efforts to get away, steering in wild zig-zags.

We realized we could not get her, and so turned our attention to the other boat. Apparently it was more

[Official photograph.

CONNECTING ELECTRIC BATTERIES WHICH FIRE THE MINES WHEN A SUBMARINE IS CAUGHT IN THE NET.

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difficult to handle her, for despite all endeavours she failed to get out of the circle. We raced as we pounced down on her. We came down to about 300 feet above the sea. When we were certain of not missing, we let go the first bomb and had the satisfaction of seeing we had made a hit. Even with the naked eye we could observe that serious damage had been inflicted on the deck of the boat.

We circled around twice more over the doomed submarine. A second bomb did the rest of the work. She broke in half and sank.

We did not wait to see more. Moments were precious. We had to get back to Dunkirk as quickly as possible, for the submarines were sure to have given warning, and we were liable to find our retreat cut off by the enemy's aeroplanes if we lingered.

Not only aeroplanes and seaplanes, but airships as well, were utilized during the first submarine campaign, but mainly, it would appear, for scouting and reconnaissance work rather than offensive action against the U-boats. That was to come later, simultaneously with many other significant developments of our defensive preparations. The original submarine campaign was met and beaten before the end of 1915 with the methods devised a year before. There followed a period, including the whole of the year 1916, during which the Germans set to work to reorganize their submarine fleet on the basis of the experience they had gained, to build new boats in large numbers, to improve the seagoing capabilities and offensive powers, and to train officers and men in the handling of under-water craft. Meantime the British authorities appear to have been influenced by an over-confident and complacent attitude which was to bear evil fruit a year later, when the third and most violent and bitter of all the German efforts was launched. In a speech in the debate on the Navy Estimates on March 7, 1916, Mr. Churchill referred to the possibilities of output of the German shipyards, and to the new naval developments which were to be expected. He urged the utmost energy in completing programmes already in hand, and the beginning of fresh ones. Novel dangers, he said, required novel expedients. He thought that the menace of submarines attacking merchantmen might present itself in new and more difficult forms, and warned the Admiralty to be ready with new devices before the enemy was ready with his. It was about this time that a serious shortage of mercantile carrying capacity began to make itself felt. Two features of the submarine campaign in 1916 were its extension to areas farther oversea, including the American coast, and the larger proportion of neutral shipping losses. The German purpose was clearly to accentuate the shortage of the world's

(Official photograph.

PREPARING NETS AND MINES: COVERING GLASS FLOATS WITH WIRE NETTING.

[Official photograph.

SHACKLING ONE END OF A NET TO A BUOY.

[Official photograph.

LOWERING NETS AND FLOATS OVER THE SIDE.

tonnage capacity, whatever the nationality of its ownership.

Towards the end of the second year of war the naval situation caused much disquiet, and the policy of the Government and the Admiralty aroused a good deal of criticism. The frequent and annoying raids by enemy small craft against our coasts and shipping were undoubtedly designed in part to cover new waves of submarine activity, and to draw off the attention of the British patrols in order to allow the U-boats to reach the open sea with better chances of escaping molestation. On February 10, 1916, Germany had announced her intention of treating all merchant vessels armed for self-defence as belligerent ships, and liable to be sunk at sight. In practice she had already done so, but a pretext for further submarine outrage was thus afforded. An instance of her determination to carry out the threat was afforded by the attack on the cross-Channel passenger steamer Sussex on March 24, 1916, when, although the vessel was towed into Boulogne, 100 lives were lost by the explosion and the disorder created by it.

THE KING WITH ADMIRAL BEATTY.

As the months of 1916 passed it became apparent to everyone who gave thought to the subject that another outburst of submarine warfare was threatening. Speaking in the House of Lords on November 15, 1916, Lord Beresford said that we had arrived at a very serious crisis in the war, and success or failure would depend upon vigour, energy, foresight and attack. The submarine danger had attained formidable dimensions, and in his opinion the Board of Admiralty required to be strengthened—new blood, younger men, fresh from the sea, who had distinguished themselves in the war, and knew what was necessary for the war, were required. Exactly a fortnight later Admiral Jellicoe was recalled from the Grand Fleet to become First Sea Lord, his place being taken by Admiral Sir David Beatty. The Second-in-Command of the Grand Fleet, Vice-Admiral Sir Cecil Burney, and the Captain of the Fleet, Commodore Lionel Halsey, also joined the Board.

In his first public speech after returning to the Admiralty Sir John Jellicoe said that the submarine menace to the Merchant Service was far greater than it had been at any period of the war, and it required all our energy to combat it. The offensive methods on a large scale necessary to deal effectively with the U-boats were not fully developed at the time the "unrestricted" campaign was inaugurated on February 1, 1917. Lord Curzon, speaking for Sir Edward Carson, the new First Lord, said, on February 7, that the Admiralty were employing and developing scientific inventions for the discovery and destruction of submarines. In this respect they found ready to their hand the fruits of nearly two years' spadework by the Board of Inventions and Research, presided over by Admiral of the Fleet Lord Fisher. Although the distinguished chemists and scientists who served in connexion with this body were not exclusively concerned with anti-submarine methods and appliances, these claimed a large proportion of their attention. The ideas submitted to the Board for anti-submarine work ran into thousands, but the great majority were crude and entirely undeveloped, and it was the task of the Board to discern those with a germ of success, and bring them to a practical stage if possible. Sir Edward Carson subsequently

declared that every single intelligent suggestion which had been made with a view to helping the Navy in the difficulties presented by the intensified war had been worked out and tested with elaborate care by the Board or the Anti-Submarine Department at the Admiralty. There was no one who had the needs of the seagoing fleet at heart more than Lord Fisher, and nobody more renowned for boldness and initiative in carrying through new schemes and enterprises. Naturally, the Board of Inventions and Research published no reports, but that it contributed very largely to the ultimate success of the war against the German submarines is beyond question. Lord Curzon also stated that we were arming vessels of the Mercantile Marine to a great extent, that "lanes of safety" through the danger zone were being organized, that neutral shipping was also being protected, and that efforts were being made to build new vessels at an accelerated rate to replace those lost. A month later Commodore Lionel Halsey was advising the Liverpool shipowners and shipmasters to resort more to zig-zagging when in the danger zone, and he quoted from an analysis of 32 typical attacks by submarines to show that out of the 27 which were successful, in 21 cases the ships were not zig-zagging at the time.

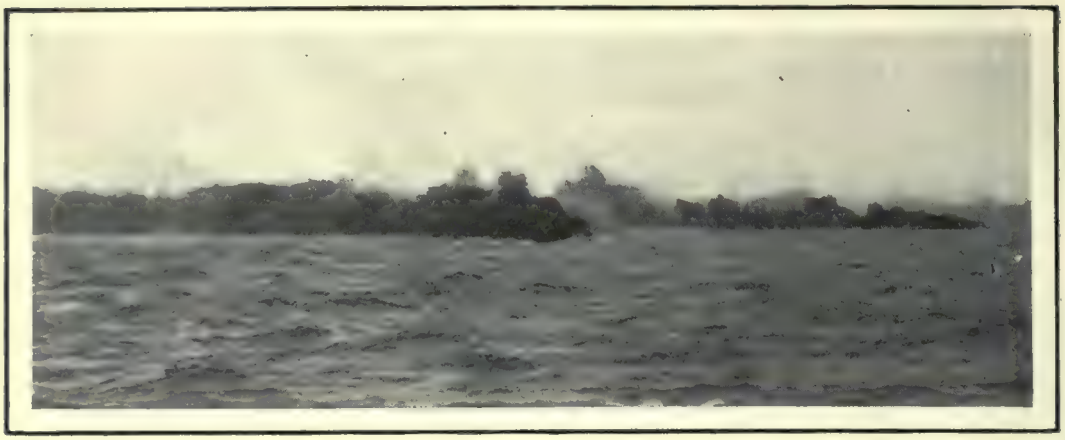
This was indeed a trying period for the British Navy and Mercantile Marine. The seamen had to withstand the full brunt of the German onslaught at a time when their own preparations for a counter-attack were inadequate and undeveloped. It had been early recognized that the U-boat menace could not be met and dealt with by means of one specific remedy alone, but only by the collective effort of various means and devices. As Lord Lytton, speaking for the Admiralty in the House of Lords on February 13, 1917, stated, there was no one sovereign remedy against the U-boats. "The danger could only be met," he said, "by the successful combination of a very great number of measures, and by the cooperation of all branches of the Service and of the public themselves." On the same day that this statement was made an interview with Sir Edward Carson, then First Lord, appeared in the *Petit Parisien*, in which he said "These barbarous attacks create for us a most difficult and serious problem. There is not at sea a single British sailor, nor at the Admiralty a single member of the Board, or Staff Officer, who does not work day and night in the hope of solving the problem."

Of course, there were certain redeeming features in the outlook, and one of especial importance was the character and ability of the British seamen, of the Royal Navy, the

ADMIRAL JELLICOE WITH ADMIRAL DE BON OF THE FRENCH NAVY.

Mercantile Marine and the fishing industry alike. Two years of submarine fighting had taught them many valuable lessons, and their conduct during that time had shown, as Sir Edward Carson once said, how deeply seafaring adaptability is ingrained in the British people. In this connexion Sir Eric Geddes, in his speech on November 1, 1917, made the following reference to the personal efficiency of our seamen:

> We, of course, analyze in every possible way submarine sinkings, and although we may do, and are doing, a great deal by the use of science, by various kinds of weapons and appliances, to defeat the submarine, there is one thing which is almost the most potent protection against submarines that exists. It is not an appliance: it is a gift that God has given to men in the ships. It is their eyesight. It is a good look-out that is kept. I will give figures to the House which, I think, will interest it, and will tell those outside how they can help the Navy against the submarine. A good look-out kept by an experienced man, covering a great many attacks by submarines, has given us the following facts, that if a submarine is sighted by the look-out in a vessel, whether the vessel is armed or not, it makes no difference; taking it all over, it is seven to three on the ship in favour of it getting away. Out of every ten attacks when the submarine is sighted by the ship, seven of them fail, but of every ten attacks when the submarine is not sighted eight ships go down



SMOKE SCREEN.

It is seven to three on the ship if the submarine is sighted, and four to one against it if it is not.

The lesson of this deduction was fully appreciated by the Admiralty. By an Order in Council in the *London Gazette* of November 21, 1917, it was provided that all British merchant vessels of 2,500 tons and upwards were to carry four specially engaged men to act as look-outs at the mastheads, these men to be employed solely on their special duty when the ship was in the danger zones. Extra pay at the rate of 15s. per month was provided for these men whilst so employed.

A few months before this official action was taken Sir Alfred Yarrow patriotically offered a prize of £20 to anyone on board merchant ships who first sighted an enemy submarine, and this prize was awarded in 172 cases up to October, 1917. The offer being open to all classes of people on board, whether crew or passengers, it gave a stimulus to all travelling by sea to be on the alert, and increased the efficiency of the look-out kept. As showing the value of keenness and smartness in this direction, an analysis of the claims made for the Yarrow prize showed that in over 85 per cent. the vessels were brought safely into port without damage of any kind, whilst in nearly one half of the cases (49·7 per cent., to be exact) the vessels got into port without being attacked at all. This was not only a great gain in itself, but it had a still more far-reaching effect in cases where the merchantman was able to circulate the information of the presence of the submarine. Then, like the aircraft keeping a watchful eye for the lurking peril of the sea, she could call to her aid swarms of scouts to close in upon the U-boat.

It is unnecessary to lay stress upon the splendid conduct of the Mercantile Marine, which has been fully dealt with in earlier chapters, notably in Chapter CCXXXIX, dealing with Naval Transport and Convoy. Yet the services of the merchant seamen must be linked up with the successful outcome of the anti-submarine campaign. It became known in the summer of 1918 that for some time past classes of shipmasters and other officers had been held weekly at various naval centres, for instruction in gunnery, submarine tactics, organization for defence, and similar subjects. Between their voyages the merchant officers were thus given a few days' technical training in "Fritz hunting," as it was termed, and learnt many valuable wrinkles from their brother seamen upon matters varying from "the trajectory of a projectile through the air to the best station in action for the ship's cook!" In course of time the men specially employed in the defence of a merchant vessel came to be known as the "Dams," owing to the fact that the forms used by the Government department supervising this work contained in a prominent place the letters D.A.M.S., signifying Defensively Armed Merchant Ship.

There were other useful means and methods of assisting merchant vessels to put up a good defence against the U-boats. One such was the employment of artificial fog or smoke screens to conceal their positions and movements. At an early stage of the submarine war it was suggested that if a merchant ship, on sighting a submarine, turned at once to windward and choked off the draught of her fires she could throw behind her a heavy cloud of smoke which would be very baffling to the enemy. Oil-burning ships were at an advantage in this respect, oil smoke being

dense and slow to dissipate, while it settles low upon the water.

Apart from utilizing their own smoke, however, ships were provided with an apparatus for producing a special fog screen. British vessels leaving Philadelphia on February 22, 1917, were reported to carry two iron drums at their sterns, filled with a phosphorus compound which, when ignited, emitted a dense black smoke so heavy that it hung upon the surface of the water. It was claimed that the clouds so produced would cling together for six hours. Six months later it was announced that similar apparatus was to be provided for the use of every American merchant ship entering the war zone. There were two distinct appliances in use. One was the smoke funnel, costing about £25, with which phosphorus, costing about 8s. 9d. per pound, was used—the funnel requiring only phosphorus for its continual use. The other was the smoke box, costing about £5, which was intended for throwing overboard, and once used could not be recovered. With such a funnel or a few of these boxes a ship was greatly helped in any contest with a U-boat, for the commander of the latter had his view obscured by the dense clouds, being only able to raise his periscope a short distance above the surface owing to the danger of being spotted from aircraft. In connexion with smoke-screen defence the Navy owed a great deal to the work of the Board of Inventions and Research, and especially of Wing-Commander F. A. Brock, O.B.E., whose untimely death whilst so gallantly engaged in the operations for the bottling up of Zeebrugge and Ostend in April, 1918, was widely deplored

Closely allied to this matter was the system of "camouflage" adopted in painting the hulls and exterior fittings of ships. Visitors to the Exhibition of Naval Pictures in July, 1918, noticed in at least two of the illustrations shown there that the merchant ships had been "dazzle-painted," as the official catalogue described it. One photograph in particular showed how protective colouring had been used by the Admiralty to baffle the U-boats. It showed a gaudy-looking steamer, on which paint-pots appeared to have been spilt haphazard by careless workmen, but which was so disguised that the German submarine commander, peeping through his periscope, should not tell in which direction the ship was travelling. In an official announcement on this subject on January 12, 1918, the Admiralty stated that:

CREATING A SMOKE-FOG.

> The theory of rendering ships invisible at sea by painting them various colours is no longer tenable. Endless endeavours have been made in this direction, but the numerous schemes tried by the Admiralty under actual conditions at sea have invariably been

disappointing. They finally established that unless a vessel and her smoke can be rendered absolutely invisible no useful purpose is served.

The application of Thayer's Law is most commonly put forward as a means of obtaining invisibility. This, broadly speaking, is an adaptation of Nature's means for eliminating shadows and so reducing the visibility of birds and animals at close quarters, either for purposes of attack or defence, and it is stated that this can be applied to ships by painting the ceilings of promenade decks or other projecting structures white in order to eliminate all shadows. Actual experiences at sea have proved that this is a fallacy, and that the paint itself, being dependent on the light of the sky, will not overcome shadows.

Some very pretty stories were circulated from time to time as to the assistance which could be rendered to our seamen in detecting submarines by seagulls, which were described as the best submarine detectors in the world. Certainly it often happened that the spectacle of several gulls circling round an object would direct attention to a periscope which had not up to that moment been discovered. The seagulls followed the submarines to pick up refuse. Their sharp eyes could detect a U-boat moving under water to a considerable depth, and the shining periscopes, as they caught the rays of light, would attract the birds. But it was futile to place any degree of reliance upon this phenomenon, especially when the microphone came to be developed.

In October, 1917, an American doctor put forward a scheme whereby the Allied submarines should be used to carry chopped fish as bait, to be released from a machine as the boats proceeded under water. Gulls would thus be trained to follow submarines, as they would soon learn to associate food with them, and in time it was hoped that a flight of these birds would mark the course of concealed German submarines. Had the scheme been contemplated it might, as the *Observer* suggested, have led to a sharp conflict of opinion between the Board of Inventions and the Food Controller as to whether it should be encouraged or forbidden.

Twelve months after its inauguration Sir Edward Carson confessed to the House of Commons how serious was the menace presented by the "unrestricted" submarine campaign. On March 20, 1918, he said: "This subject never was, and never could be, absent from the mind of anyone who had to go through the ordeal I had to go through when the intensive sinkings by submarine first commenced. The worst months were, I think, March, April, and May, and really one felt at the time that the problem was almost hopeless." Sir Edward Carson's successor also made a similar admission in a speech in the House on July 30, 1918. Sir Eric Geddes then said: "A year ago we were faced with a situation which up to that

GERMAN SUBMARINE STOPPING A SPANISH STEAMER OFF CADIZ.

French official photograph.

A "CAMOUFLAGED" FRENCH TRANSPORT.

time was considered by many almost inconceivable and insoluble. Our available mercantile marine power was being sunk at a rate which would soon have brought us to the point of inability to continue the war, and we were without tried and recognized means of combating it." These statements indicate the gravity and seriousness of the position in the spring of 1917, when the Germans staked everything upon forcing a decision at sea by ruthless and wholesale destruction of merchant shipping.

As soon as the situation was fully realized steps were taken by Sir Edward Carson and Sir John Jellicoe to organize a department at the Admiralty for dealing specially with the submarine menace, under Rear-Admiral A. L. Duff. This was colloquially described as "The Submarine Strafing Committee." When later Rear-Admiral Duff became Assistant Chief of the Naval Staff, Captain W. W. Fisher, R.N., was selected as Director of the Anti-Submarine Division of the Naval War Staff. Sir Edward Carson stated in a speech in Parliament on February 21, 1917, that this Anti-Submarine Department had been composed of the best and most experienced men who could be drawn on for the purpose from officers serving at sea, whose whole time was devoted to working out the problems in connexion with the menace. Shortly after Sir John Jellicoe came to the Admiralty he issued an invitation to all members of the Fleet to send in any suggestions that occurred to them.

As a result of the measures to which Sir Edward Carson referred on this occasion a great impetus was given to the provision of anti-submarine craft of all descriptions. In referring to the great building programme undertaken about this time, Sir Eric Geddes stated in a speech a year later (on March 5, 1918) that the programme of anti-submarine craft and devices which had been embarked upon by the Allied Navies was being pushed forward with all possible speed. Sir Eric had previously spoken in the House of Commons of the increasing difficulty in regard to production brought about by the enormous demand for material of all kinds, coupled with the situation created by the intense submarine warfare adopted by the enemy. On November 1, 1917, he referred to the programme of warship and auxiliary ship construction then in hand as "infinitely larger than had ever been undertaken in the pre-war history of the country." He also said, moreover, that during the previous twelve months the output of Royal Naval and auxiliary craft, measured in displacement tons, was between three and four times as much as the average annual output for the few years preceding the war.

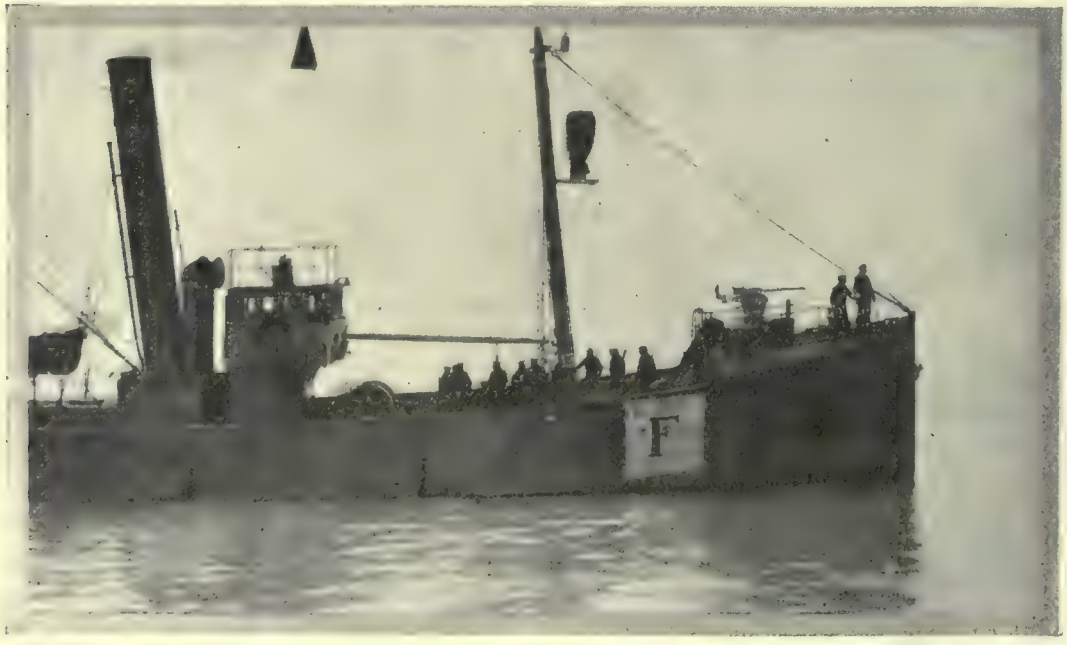
A second outcome of the policy of Sir Edward Carson and Sir John Jellicoe was the development of appliances for discovering the whereabouts and movements of submarines under the water, and for restricting their operation by means of barrages and minefields. The former are referred to later in this chapter

[Official photog aph.

BOTTOM PLATE OF A U-BOAT, CAPTURED NEAR HARWICH, WHICH THE CREW ATTEMPTED TO SINK.

As to the mines and barrages, an interesting reference to the position as regards the Dover Straits was made by Sir Eric Geddes on March 5, 1918. He referred to the common belief that the passage of submarines through the Dover Straits had been prevented by nets or other obstructions from the very early days of the war. This was not the case, said the First Lord, and undoubtedly a considerable number passed through the Straits towards the end of 1916. But a more vigorous policy had been adopted since then, he added. A surface barrage had been maintained across the Channel, in order to obstruct the passage of enemy submarines. By day and night this barrage was maintained, and at night the patrolling craft—which numbered over 100—burned flares, so that any submarine attempting the passage on the surface had a reasonable chance of being engaged. A similar reference was made later to the great minefield stretching across the North Sea from Norway to the Shetlands.

Thirdly, the awakened policy of the Admiralty at the beginning of 1917 resulted in many and far-reaching improvements in the existing weapons for dealing with U-boats, especially depth charges and bombs to be used both from sea and air craft. Owing also to the increased size of enemy submarines, and the heavier guns they carried, it was necessary to increase the gun-power and also the speed of the vessels employed in hunting and chasing them. All the old means and methods, in fact, were employed to the full, and new ones were added. The result was seen when the destruction wrought by the under-water craft was lessened, and in the increased success of the operations for dealing with the submarines. On March 5, 1918, Sir Eric Geddes was able to say in the



GERMAN ARMED SUBMARINE TENDER.

House of Commons: "I think it would not be an unduly favourable estimate to say that in recent months the chances against a submarine returning from its voyage in these home waters are about one in four or one in five, and that for some months now we believe that we and the American Forces in home waters have been sinking submarines as fast as they have been built."

Of these three results of the Carson-Jellicoe *régime*, the significance of the first, the construction of anti-submarine craft, will be at once apparent. Many are the stories which could be related concerning the achievements of these hunters of the submarine, from destroyers to drifters, and from specially built anti-submarine chasers to patrol yachts. The fate of UC 39, which was made known early in May, 1918, illustrates the deadliness of a destroyer attack. This submarine, of a new mine-laying type, commanded by Lieutenant Otto Ehrentraut, had sunk two neutral ships, in one case continuing to fire on her victim after the vessel had stopped in reply to a signal, and killing two of the crew. On the following day the submarine opened fire on another steamer, but this attracted the attention of a British destroyer. UC 39 dived, but not quickly enough, for a depth charge dropped by the torpedo-boat destroyer shook her vitally, so that water poured into her conning tower and control-room, causing a panic among the crew. She rose sharply to the surface, only to be raked by the destroyer fore and aft. Ehrentraut climbed out of the conning-tower hatch, and was immediately killed by a shell. The engineer and sub-lieutenant were the next on deck, and the former was wounded.

FRENCH SUBMARINE CHASER.

The U-boat was still making speed on the surface, and the destroyer therefore continued to fire. Finally, the destroyer hailed the U-boat through a megaphone to stop, and when the submarine ceased to move seventeen German survivors were taken off her. Two British prisoners in the U-boat were also rescued uninjured before she sank.

A few weeks after the foregoing incident details of the sinking of a U-boat by one of the armed yachts in the English Channel were issued by the authorities:

An SOS signal was picked up by the yacht just after sunset, and half an hour later the periscope of a submarine, which was apparently preparing to attack a merchantman, was sighted. Full speed was ordered, and the yacht drove right over the submarine as the

MOTOR LAUNCHES DEALING WITH A GERMAN SUBMARINE.

periscope disappeared. Two depth charges were dropped. The captain, while bringing his yacht round to pass over the spot again, noticed a disturbance in the sea. He dropped a third depth charge in the centre of the disturbance, which presently died away. One survivor was picked up, but he died from his injuries. The official recognition of the captain of the yacht is recommended by his superior officer, who points out that this lieutenant R.N.R. "showed great promptness not only in keeping other merchant shipping clear of the danger zone, but in attacking and destroying the submarine."

Similarly, the use of the ram, which had been of relatively greater importance in the earlier days of the submarine fighting, before depth bombs and such weapons had been perfected, was continued, to good purpose, by the small craft of the various kinds. In April, 1918, six merchantmen were bound for Liverpool under the convoy of a patrol boat, when about five o'clock one afternoon a submerged submarine discharged a torpedo which struck one of the steamers, the vessel beginning to founder quickly. Owing to the smartness of a look-out, however, about three feet of the submarine's periscope was observed some 150 yards away, and the patrol boat was headed for it at full speed. The sharp bow struck the U-boat a violent blow, knocking several men off their feet, and at the same time depth charges were released. Then a most remarkable result was seen. Not only had the patrol boat rammed the submarine, but it had done so with such force that the submarine had been cut clean in two. There was first a vision of the damaged stern floating for a moment above water; then the forward part appeared, bow downwards, and with the interior clearly visible. There was no sort of doubt as to the fate of this under-water craft.

In many instances of the later submarine fighting the U-boat commanders were much too cautious to give any opportunities to their assailants for ramming, and then reliance had to be placed chiefly on the gun. Many successes of the anti-submarine chasers were secured by this means alone. Indeed, it was announced in June, 1918, that one such vessel, on her maiden trip from the United States, destroyed a submarine off the French coast on May 20. Ensign Maurice Verbreach, who commanded the chaser, described how a patrol vessel was sighted aboard which were the survivors of an American steamship sunk by a submarine. Half-an-hour later the latter was encountered, and before she had any opportunity to get off a torpedo fire had been opened upon her, thirty rounds in all being discharged. A destroyer cruising over the spot later confirmed that the destruction of the submarine was complete. As the descriptive notes of the Official Naval Photographs Exhibition in the summer of 1918 stated, the U-boat dreads the chaser as the rabbit dreads the ferret. "Great Britain now possesses an enormous number of these submarine-chasers," it was added, "which were specially invented for the U-boats' undoing."

Then there were the large numbers of specially-constructed drifters and trawlers, upon

AN AMERICAN SEAMAN LISTENING AT A HYDROPHONE.

which fell a large part of the warfare against the submarines. "A Fisherman's Fight" was the title officially given to a brilliant action of which particulars were allowed to be published in *The Times* on July 12, 1918. On this occasion six armed trawlers, under a lieutenant, R.N.V.R., returning to a British port with their cargoes of fish, encountered, fought, and drove off a large German submarine cruiser, as the following narrative shows:

It was before 6 o'clock on the morning of June 20 that the submarine suddenly appeared some 7,000 yards away on the beam of the leading trawler, and began to fire. She was a big craft of a type not certainly identified, with a couple of large guns of about 6-in. calibre and one, if not two, smaller ones—a very formidable enemy for trawlers with their low speed and light armament. She showed two small masts and so large a conning tower that the men on the trawler were for a while doubtful if she was a submarine at all.

[Official photograph.

A DRIFTER.

The R.N.V.R. officer immediately summoned his little flotilla to form line ahead and follow him; and the ships swung into formation with the precision of warships. The submarine ranged in, and the action opened. All three of the German's guns were bearing on the leading trawler and her shells were falling all round, enveloping her in waterspouts, but never actually hitting her. The next astern, however, was less fortunate; several shells hit her, and she was severely swept by the shrapnel, of which the German fired not fewer than a hundred rounds, and one of her hands was killed and four were wounded. Among these was the gunner, but the remaining hands, though most were injured, kept the gun going.

The submarine was trying to work ahead of the line; the trawlers, superbly handled and never losing their formation, altered course to keep her on the beam and continued to fire. A shift of wind allowed them to use their smoke boxes and make a temporary screen between themselves and the enemy. The commander's report speaks of the imperturbable courage and never-failing skill of the men who handled the trawlers during the whole of this time. They were dealing with an enemy normally capable of steaming rings round them and heavily enough armed to blow them out of the water; they kept their fire going till they were threatened with lack of ammunition, and when the leading trawler found herself with only fifteen rounds left she made ready the signal: "Prepare to ram."

But it did not come to that. The submarine was closing to shorter range, and the second trawler in the line managed to land a shell on the after-part of her. The leading trawler, five minutes later, hit her again with one of the few remaining shells—a direct hit under the submarine's forward gun, which was carried overboard in a burst of flame and smoke of the explosion. The submarine swung round to get her after-gun to bear, and forthwith the leading trawler burst a shell at the base of her big conning tower. A huge cloud of smoke went up, enveloping the submarine and shutting her from sight. What happened to her is doubtful, but when the smoke cleared away she had disappeared, and the trawlers saw no more of her.

Taking the second line of progress in dealing with the intensified U-boat war—the impulse given to the invention and improvement of appliances for finding the submarine—very significant was the development of the sense of hearing, as distinct from seeing, in the anti-submarine craft. Spotting the submarines from seaplanes, airships, and kite-balloons was carried out regularly, but beyond this it was very desirable to have an instrument which could be relied upon at times when it was impossible for the aircraft to operate effectively, or when their work was hampered by fogs and the like. Water, as is well known, conducts sound for a much greater distance than air, and, in this connexion, the microphone, or listening device, was a most useful invention. It was developed from the submarine bell signal system which had been carried by liners for a decade or more, and which had been the means of saving many ships from collision, especially in darkness and fog. Before the war, tests carried out by the Hydrographic Department at the Admiralty had shown that a

submarine bell could be heard ten miles away by a ship whilst in motion; and with her engines stopped and the vessel placed at right angles to the direction of the signalling vessel, the sound could be distinguished up to a distance of 21 miles. The principle was bound to be applied to anti-submarine war, and in 1915 an American electrical engineer, William Dubilier, used it in devising a system of harbour defence against U-boats. His plan, according to the *Scientific American*, was to lower a number of special microphones to a certain depth, usually in a semi-circle facing out to sea. Each microphone was so placed as to receive sound waves best in one direction. By slowly moving the switch over the several contacts, the operator could determine from the microphone which responded loudest in what direction the submarine lay. The system was stated to be unsuitable for ships because of its extreme sensitiveness, but installations were said to have been provided along the French and British coasts, each station being worked in conjunction with fast torpedo-boat flotillas and armed motor-boats.

Dubilier himself described his invention in the issue of the *Popular Science Monthly and the World's Advance* for December, 1915. He pointed out that what was needed was some form of apparatus which would pick up the sounds sent forth by a submarine, not deliberately, but involuntarily. The sound which was found susceptible to this apparatus was the weird, shrill hum of a submarine under water. Previously that hum had been mistaken for engine vibration, but Dubilier proved that it was much too high in pitch for that, and was derived from the electric motors which came into use when the Diesel engines were cut off and the submarine was travelling under power derived from her storage batteries. A sort of "sound sieve" was needed, something which would eliminate everything but the shrill, almost singing, note from the submarine. This was eventually found in a resonator, like a tiny organ-pipe, tuned to the exact pitch of the submarine's electric hum. The sound was then magnified by the microphone, built on the lines of a telephone transmitter, so that the ear could hear it. As soon as the microphone became practicable for use against submarines, further possibilities of its use were opened up. Captain

ITALIAN SUBMARINE CHASERS.

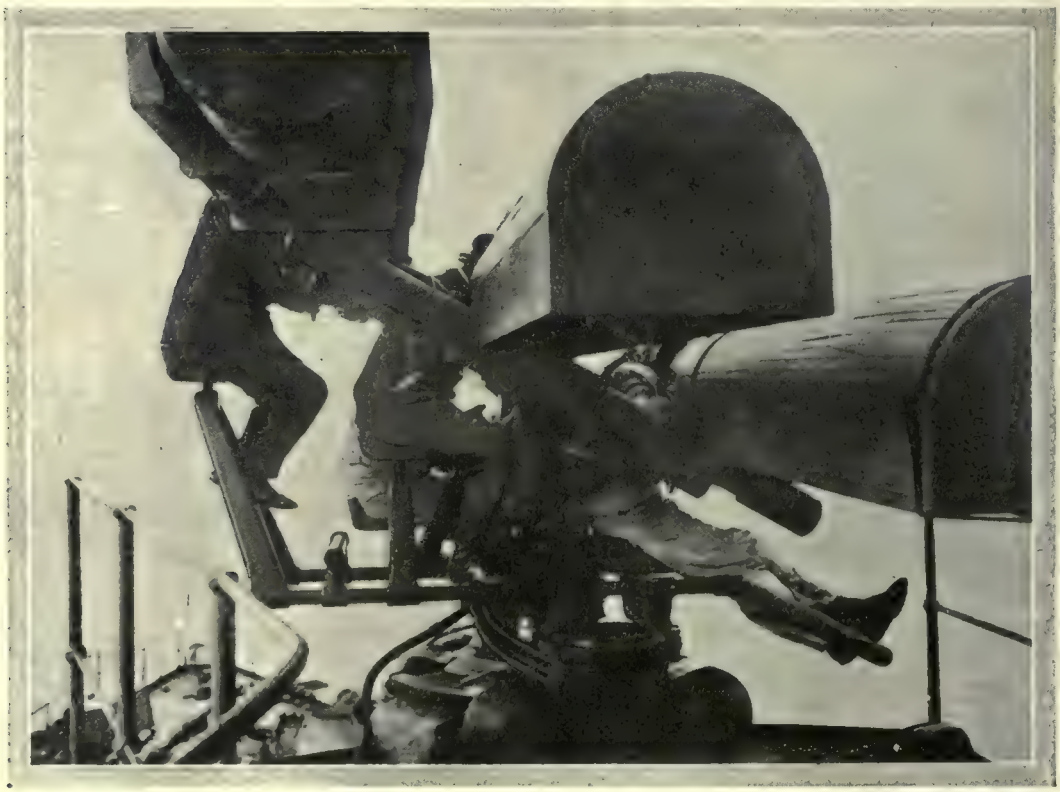
Karl O. Leon, of the Swedish Navy, was reported to have been the originator of the microphone-guided torpedo, the idea of which was for a torpedo to be fitted with four sensitive microphones, or "ears," which, being attracted by the sound of a ship's propellers, steered the torpedo towards her. This invention was advanced a further stage by Mr. E. F. Chandler, an American, who was described as the inventor of the system of harbour defence which was being tested by the United States Navy, and the father of the torpedo-steering gyroscope.

The inventiveness of our French Allies also shone in the provision of microphones for anti-submarine work. An illustration issued officially in March, 1917, gave some idea of the Telemetriste, as it was called, a strangely constructed instrument placed aloft in some of the French warships at that time, which was used to detect the sound of submarines and also gauge their distance away.

The importance of perfecting such an instrument as this was obvious. It was the key to the success of the greater proportion of our anti-submarine efforts, for so many appliances and weapons depended for their proper employment upon those using them being able to locate the U-boat. The great thing was to find the submarine. There were plenty of means available to attack and destroy once her position could be ascertained. The point was put very clearly by Mr. Wilkie, the member for Dundee, in a speech in Parliament on March 20, 1918, in which an even more advanced apparatus was called for. He said:

> I should like to ask the Admiralty if they have given all the encouragement they could to scientific invention to spot the submarine in the water? That is the one thing wanted. If we could only get a machine like Marconi's wireless, or something of that nature, by which we could spot the submarine in the water, then we would be able to get over the menace. We are building flying boats and machines of many descriptions, but I would urge that they should give every assistance so as to secure that we may be able to spot the submarine in the water.

In passing, a word must be said about the assistance rendered to scientific invention by the French naval authorities, especially in relation to the hydrophone, as it is called. British journalists who in August, 1918, were permitted by the French Government to visit certain naval centres, described among other things a school which existed for the sole purpose of training men in listening for submarines. In a padded cell, tha silence of which was almost painful, sat an operator with receivers to his ears, connected by wires



French official photograph.

THE TELEMETRISTE.

[French official photograph.

GUN ON A FRENCH MERCHANTMAN.

to a series of diaphragms so sensitive as to be able to record the passage of a submarine many miles away, and also the direction in which she might be travelling. As soon as a U-boat comes within radius of such a listening machine a throbbing is heard, and the trained operator, assisted by a dial in front of him, is able to gauge the position of the enemy craft. Immediately, a swarm of small craft are concentrated in the required direction, and it is heavy odds against the submarine escaping. One correspondent who made the visit of inspection in August, 1918, stated that the French motor launches working in conjunction with the hydrophone section included a number of the standardized American type, which came across the Atlantic under their own power, with the loss of only one boat out of fifty. That the British Navy was using hydrophones was revealed in July, 1918, when an illustration of a seaman listening to the movements of a submerged U-boat was shown in London at the Exhibition of Naval Photographs in Colour. As was then stated, by means of this instrument many of the enemy submarines had been detected and finally destroyed.

Concurrently with this advance in the methods for locating submarines there was a great extension of the restrictive measures, such as minefields, for curbing their activities by reducing the areas in which they could operate. A chart prepared from the information contained in the notices to mariners issued by the Hydrographer of the Navy on January 3 and April 26, 1918, was published in *The Times* on May 27, 1918, and showed that the grip on the German Navy was made more comprehensive and complete by a third minefield, originally laid during the early weeks of 1917, but the limits of which were readjusted and modified in January, 1918. This field extended from the neighbourhood of the Dutch coast to that of Denmark, and enclosed as it were by a deep semicircular danger zone the waters of the Heligoland Bight. There were then three British minefields in the North Sea, the smallest and first to be laid being that which served as a protection to the Thames and helped to block the way to the English Channel; while the remaining one was the great mine barrier imposing an obstruction to the wider passages of the ocean pathways round the north of Scotland, extending as it did between the Orkneys and the Norwegian coast. This minefield had an area of about 12,758 square miles.

BRITISH MINEFIELDS IN THE NORTH SEA.

The value of minefields in this connexion was that they limited and restricted the movements of the submarines and simplified the extent of the measures for watching them. Perhaps the best tribute to their efficacy was contained in the protests and complaints made about them in the German newspapers. In a timely article on June 11, 1918, the *Petit Parisien* stated that, in regard to this increasingly effective means of destroying submarines, the Germans had become uneasy, and were therefore starting a general campaign in neutral countries to influence them against the Entente, and particularly in Sweden, to incite her to protest against these minefields. The French journal added:

> Germany found it quite natural in earlier days that neutral ships should founder on her mines, but now that she finds that the mistress of the seas can sweep these mines, while she herself chiefly finds it very difficult, if not impossible, to make a safe passage through

our minefields, Germany complains. The Entente are within their strict rights according to international treaties, and we are not allowing ourselves to be intimidated by these protests.

In spite of German boasts that their submarines could ignore the mines by diving under them, manifestly a large number of U-boats must have come to grief within the mined areas. On June 18, 1918, the authorities allowed the publication of an account of a German submarine which was one of the last to leave Zeebrugge before it was bottled up on April 24, 1918, by Sir Roger Keyes's forces. Out of a crew of 40 in this particular boat only two survived after a terrible struggle with death for about an hour and a half at a depth of 20 fathoms, to which the submarine had foundered after striking a mine. On the explosion occurring, the craft dived rapidly by the stern to the sea floor. The engineer, a skilful officer, thoroughly conversant with the mechanism of his boat, managed to re-establish the electric lighting, which had given out when the crash came, and then was able to put the boat on to an even keel by ordering the crew to make a combined rush forward. All endeavours to move the boat further failed, and water was gradually pouring into the hull between the plates which had been forced apart by the explosion. The only chance of anyone escaping alive was to force open the conning tower and forward hatches and trust to the compression of air in one part of the vessel to force each man to the surface. The water was gradually rising and flooding the interior, however, and in addition was mixing with the chemicals in the accumulators and setting up a poisonous gas. At length, when some of the crew, becoming unbalanced, had taken their own lives, the aperture of one of the torpedo chambers was forced, and as the mass of water increased, the air pressure eventually became sufficient to enable the survivors to force open the forward hatches and conning tower hatch. Only two men, however, escaped from the hull of the boat and reached the surface alive, there to be picked up by a British trawler.

Turning for a moment to the general progress of the submarine war, the weekly tables of losses issued by the Admiralty showed that the campaign attained the height of its virulence in April, 1917. Mr. Lloyd George admitted in Parliament on August 16 of that year that the April losses were about 560,000 tons of

MINES ON BOARD A U.S. MINE-LAYER.

shipping. He added, however, that they were diminishing, while the building of new tonnage was increasing. A fortnight later Sir Joseph Maclay, the Shipping Controller, announced that 60 per cent. of our merchant vessels and all long-distance vessels were armed with guns and provided with sufficient gunners to work them. On October 22, 1917, at the Albert Hall, Mr. Lloyd George said that the losses of German submarines during the year to date had been more than twice what they were in the whole of 1916. On December 13, 1917, Sir Eric Geddes stated that the submarine menace was held, but not yet mastered; and on February 2, 1918, Sir Eric was able to declare that the sinkings of merchant ships had been reduced to a lower level than before Germany cast aside all restraint. On February 8, 1918, Admiral Lord Jellicoe, in a speech at Hull, said that he had confidence that by the late summer, about August, we should be able to say that the submarine menace was killed. By that date, although many valuable ships and their cargoes were still being sunk, it was no longer the serious peril it had been in 1917.

It has been shown, then, that the efforts of the Admiralty in 1917–18 were directed (1) to the provision of anti-submarine vessels of all kinds; and (2) to the introduction of scientific appliances for locating submarines and the provision of mining and other obstructions to curtail their possible area of mischief. Equally important was the perfection of new weapons of attack which could be used by the various craft of the Navy on and over and under the water. Best known, perhaps, was the depth charge, or water bomb, as the Germans called it, the general idea of which is indicated by these two names. The depth charge was fitted with a hydrostatic valve, which was operated by the weight of water, and at any fixed depth to which the valve might be set an appliance for exploding the charge was actuated. A depth charge could be set to explode at any desired depth, and its special value lay in the fact that it did not need to be exploded against the hull of a submarine

[Ministry of Information.

A DEPTH CHARGE EXPLODING.

to damage her. At some distance away the concussion set up by the explosion would be sufficient to blow in the sides of the boat, or disarrange the delicate and complicated internal fittings and machinery. Then the U-boat had, in nearly every case, to choose between sinking to the bottom finally, or making an effort to rise to the surface, where she exposed herself to the guns and other weapons of the hunting craft above water.

An interesting reference to the use of depth charges was made by Sir Eric Geddes in opening the Naval Pictures Exhibition on July 11, 1918. One of the colour pictures shown there was entitled "A Depth Charge Exploding," and an official note stated that although the number of dangers which pursued the U-boats was multiplying every day, the depth charge was perhaps the worst thing, from their point of view, which they had to encounter. "The crews never know," it was added, "when this terrible device is going to be dropped beneath the waves and blow their slender craft to atoms."

In his speech Sir Eric Geddes similarly described the depth charge as one of the most potent weapons the Navy had against the submarine. By means of numerous small craft and depth charges the submarine had been turned from the hunter into the hunted. Giving an actual instance, the First Lord said that off a popular seaside resort not long before a submarine was hunted for 72 hours, during which time 35 depth charges were dropped all round and about her. In the end she came up alongside a drifter, and her crew scrambled out of the conning tower and surrendered. The captain of the drifter took them on board one at a time, searched each one, put them down in the fish hold, and then signalled that he wanted a strong marine guard as he was bringing in a lot of prisoners.

The following official *communiqué* illustrative of the use of depth charges was issued on September 15, 1917, and was typical of many cases of the kind:

> A patrol vessel noticed a wake with a considerable amount of foam travelling almost parallel to her course on the bow a short distance away. She crossed this wake, and dropped an explosive over it. Almost immediately a second charge was dropped, and after it had exploded another explosion took place. Oil and bubbles were coming to the surface, and on this spot a further charge was exploded. Two more patrol craft arrived on the scene and discharged their charges. The oil, which was still rising after an interval of twelve hours, was of heavy brown nature, with a smell like petrol.

This episode might be classed as one of

[*Italian Naval official photograph.*

APPARATUS FOR RELEASING DEPTH CHARGES ON AN ITALIAN DESTROYER.

"practical assurance," being just short of an actual certainty, that the U-boat had been destroyed. At other times the evidence was a little more definite owing to the cooperation of aircraft and trawlers. A torpedo gunboat, for instance, on one occasion sighted a periscope at 600 yards, headed for the submarine and rammed her slightly. When the captain judged that the submarine was passing under the after part of his ship, he let go a depth charge. The ship was immediately turned and a second charge dropped. A seaplane which was sent up circled round for an hour and reported large patches of oil on the surface, and later still, a group of mine-sweepers, sweeping the bottom, reported an obstruction in this place.

Nothing more wonderful in our anti-submarine preparations could be imagined than the development in aircraft. What in the summer of 1915 was accounted almost a unique encounter had come two and a half years later to be regarded as a daily occurrence. Here are three typical episodes, published on April 8, 1918, by authority, of the work of seaplanes:

A British seaplane, while patrolling the Channel, sighted a U-boat travelling on the surface at low speed. The submarine started to dive, but before she could get quite under the seaplane was upon her and dropped a couple of bombs which crumpled up her conning tower and periscope. Two other bombs were dropped and the submarine disappeared, leaving on the surface indications that she had been destroyed.

In hazy weather quite recently a large seaplane of ours encountered a big U-boat, on the deck of which a man was standing at a gun. Flying directly overhead, the seaplane dropped a bomb and at the same time took a photograph which, when developed, showed that the bomb had ripped a large hole in the U-boat's deck. Gun flashes were now noticed in the mist, out of which came three more U-boats and three German destroyers. All made for the damaged submarine, firing heavily upon the seaplane as they approached her. Then a couple of German seaplanes turned up and joined in the fray. But the British machine was not to be driven off. It continued bombing the submarine until the latter was sunk. By the time this happened the seaplane had exhausted all its projectiles. Having no further means of continuing the fight, the seaplane wirelessed back a message giving the location of the enemy's flotilla and then sped away safely home.

Two of our seaplanes spotted a large U-boat on the surface and dived to attack her. The first machine dropped a bomb which struck the submarine on the side, causing her to heel over and begin to sink. The second machine then bombed the U-boat by her conning-tower, and the pair together continued pelting the pirate with projectiles until satisfied that she had been destroyed. On another occasion one of our seaplanes dived from over 4,000 feet and dropped a bomb plump upon a very large German submarine, which at once turned over and sank.

The mileage covered by seaplanes and airships while on patrol ran into hundreds of thousands per month, and it was a recognized thing that submarines hardly ever attacked a ship whilst under the escort of aircraft.

The following instances of airship attacks will indicate that the lighter-than-air units of the Royal Air Force were equally to the fore in service against the under-water boats. On one occasion at mid-day a naval airship sighted a suspicious patch of oil and circled over it in an effort to ascertain the cause. Suddenly a periscope broke the surface in the midst of the oil. The airship dropped a bomb close to the periscope, and a series of bubbles began appearing, indicating that the damaged submarine was moving slowly away under the water. Several more bombs were dropped in

[Official photograph.

RELEASING A DEPTH CHARGE FROM A DRIFTER.

TOWING AN OBSERVATION BALLOON INTO POSITION.

the path indicated until satisfactory evidence was obtained of the enemy's destruction. On another occasion an airship sighted a submarine which was engaged in attacking some merchant vessels, and two bombs were dropped over the boat. Great patches of oil and bubbles indicated severe damage, and trawlers which were within call, and were advised of the position, completed the destruction of the submarine by depth charges. The airships working with the Navy were particularly effective in convoy work. In the long summer days especially, they rendered valuable help to the surface flotillas by spotting periscopes and directing the attention of the destroyers and patrol craft to them.

Another species of aircraft provided for the Navy by the R.A.F. was the kite-balloon. In introducing the Navy Estimates in the House of Commons on March 7, 1916, Mr. Balfour said that the kite-balloon, which had also been handed over by the Army to the Admiralty, had undergone great and growing development. "I do not know," said Mr. Balfour, "what the ultimate limits of its utility are, but I am persuaded that we shall find more and more use for it at sea, and that the extraordinary change which has gone on in the last twelve months in the use of the kite-balloon is symptomatic of the value which it will have, not merely in land operations, but in sea operations also." At the Naval Photographs Exhibition in July, 1918, it was explained in connexion with a picture of a kite-balloon in tow that these "sausages" were being used for spotting purposes, and had proved wonderfully efficacious. Used in conjunction with small-craft flotillas, the kite-balloons covered thousands of miles on patrol week by week. By means of a telephone the kite-balloon observer in the basket suspended from the gas-bag could give timely warning to his comrades in the ship below, or to the merchant vessels if he was accompanying a convoy, of the approach of hostile craft. At the best, such craft could not be spotted from the masthead of a ship for many minutes, perhaps even an hour or two afterwards. Once a periscope had been sighted, the balloon would guide the towing destroyer or patrol craft towards the wake, and if the submarine dived the probable course would be gauged and the destroyer would be steered to converge with it, until such a moment as a depth charge could be dropped with reasonable chance of success.

Practical proof of the destruction of a U-boat was, of course, often provided by the capture of survivors from her crew; in some

THE END OF A U-BOAT WHICH HAS SUCCUMBED TO DEPTH CHARGES.

cases the U-boat herself was captured, but found to be no longer seaworthy through damage sustained. One such case was the capture of the entire crew of four officers and 35 men of a U-boat by the American destroyers Fanning and Nicholson in November, 1917. Having sighted a periscope, both the destroyers made full speed ahead towards the spot and dropped depth charges. These had the effect of disabling the submarine and causing her to bump the bottom of the sea. She then rose to the surface, and on being thrown a line, which was made fast to the submarine, her entire crew scrambled off the conning tower and swam for the destroyer. It was then discovered that the Germans had opened the sea cocks, for the submarine commenced to settle down, until the hawser parted and she disappeared. In another case, given officially, a U-boat moving below the surface struck a mine, and her engine-room immediately filled with water. Under this weight her stern sank, thereby causing her bows to rise almost vertically out of the water. The only means of escape for the crew was through the torpedo tube, which was quickly unloaded of its torpedo, and on the shoulders of their comrades who formed a human ladder some members of the crew were enabled to escape and were picked up by a patrol-boat. The U-boat, however, suddenly heeled over, filled with water through the open tube, and the rest of the crew were drowned. An exploit by a British submarine with a U-boat illustrates the uncertainty which might have existed had not survivors been captured. The British vessel sighted the enemy craft, both being on the surface, and immediately dived and altered her course, locating a few minutes later the German through her periscope. While still submerged the British boat discharged a torpedo, which was followed by a sharp explosion. On again coming to the surface, the British submarine found three men swimming in a patch of oil, two of whom were rescued, the other sinking. Many survivors were saved under similar circumstances by surface craft, as was the case when the French cruiser Chateaurenault was torpedoed by a submarine in the Ionian Sea in December, 1917. The torpedo having been fired from the enemy craft, the destroyers which were travelling with the cruiser rushed to the spot from where the attack had been made, riddling it with shells. The enemy then rose again, but hurriedly submerged on being shelled from the crippled cruiser. Another torpedo was then fired at the cruiser, which sank. The submarine again rose, only to submerge under fire from the destroyers and the bombs of two seaplanes. She was, however, unable to remain below the surface, for once again she came up, being immediately surrounded by destroyers. The Germans threw themselves into the sea, three officers and 19 men being saved, the submarine then sinking, having been blown to pieces by gunfire.

In other cases equally satisfactory proof of the destruction of enemy under-water craft was obtained. In some cases the proof consisted

of wreckage from the interior or sides of the vessel; in others, where ramming was the method of destruction, the submarine was sometimes cut in halves, one of these, perhaps, coming to the surface, and the inside of the vessel becoming visible. In many instances the force of a depth charge so damaged the enemy that she was unable to rise, and it was only with the aid of divers or the sweeps from a trawler that an obstruction was found on the bed of the sea. A particular instance in which the wreckage on the surface denoted the total destruction of the vessel was that in which a U-boat came to the surface about a quarter of a mile from a destroyer. The latter craft, making towards the spot at top speed, caused the enemy to submerge again, and two depth charges were dropped. This evidently caused considerable damage, for the periscope again appeared at an angle on the surface, and then submerged. More depth bombs were dropped, and soon oil came to the surface together with a wooden ladder, a lifebuoy of German make, a steel buoy of which a portion was fractured, and a calcium float. In another case a British patrol boat, having reached a submarine just as the latter was submerging, apparently struck the conning-tower, at the same time dropping depth bombs. The effect of one of these was that a heavy piece of metal was flung out of the water to a height of some fifty feet, this being accompanied by oil bubbles. The effects of ramming are practically always fatal to the attacked vessel, and together with depth charges and accurate gunfire it constituted a most formidable method of anti-submarine warfare. On a dark night a British cruiser discovered an object approaching dead ahead about 150 yards away, and found this to be a submarine. With slight alteration to the helm of the warship she bore down on the helpless submarine with a crash, followed by an explosion and a sheet of yellow flame. The submarine sank immediately, leaving as evidence of her thorough demolition parts of her superstructure on the bows of the cruiser.

One of the most curious and interesting phases of the war on the submarines is associated with what are known as the "Q" or mystery boats, in which many officers and men won distinctions from the V.C. downwards. The first official revelation of the operations of

ANOTHER DEPTH CHARGE EXPLODING.

such craft was made by Sir Eric Geddes in a speech in London on August 4, 1918, when he made known the successful fight of Q50 with a German submarine. A dingy-looking collier, this mystery boat met a submarine which opened fire straight away. With wonderful coolness the mystery ship held on, shamming feebleness to resist. A "panic party" scrambled into the ship's boat, mock explosions were arranged, and other evidences of terror and distress given—and all the time the submarine was being enticed into close range. In the end she was destroyed, after a contest lasting from eleven in the morning till four in the afternoon.

These decoy ships were selected from all classes of vessels afloat and hardly any two were alike. A good deal of mechanical ingenuity was displayed in their disguise and equipment, as their success obviously depended, first upon concealing their warlike character until the psychological moment, and secondly, upon removing the shutters or screens, dummy bulkheads, etc., in the quickest possible time to enable the armament to be brought into action.

No more than a brief reference is needed here to the efficacy of the convoy system and the part it played in meeting the submarine attack, since the subject was fully dealt with in Chapter CCXXXIX. By this system not only were the losses of cargo-carrying ships most materially reduced, but its extension to military transport work enabled the American Army to be brought to Europe in marvellous security. On January 16, 1918, the Prussian Minister of Finance, Herr Hergt, in his Budget speech said: "The great army over the water cannot swim and cannot fly; it will not come." Similar predictions were made by other German statesmen; Great Britain was to be brought to her knees by the unrestricted submarine war, and the intervention of the United States was to be made impossible. The reintroduction of the convoy system and the opportunities it afforded for making the best use of certain measures of protection assisted in large measure in bringing these extravagant hopes to nought. In no other direction were the claims of the enemy made to look more ridiculous than in regard to the smoothness and celerity with which many thousands of American troops were brought across the Atlantic in face of the threat to prevent this movement by the U-boats. The American Navy played its part splendidly, but as Mr. Franklin Roosevelt stated, in a speech in London on July 29, 1918, 60 per cent. of the troopships used up to that time for the conveyance of the American soldiers had been British ships convoyed by British men-of-war.

CHAPTER CCLVIII.

PORTUGAL AT WAR: 1916-1917.

REASONS FOR INTERVENTION: NATIONAL, COLONIAL, REPUBLICAN—GERMAN INTRIGUE AND INTERNAL POLITICS—THE DEMOCRATS AND INTERVENTION—THE REVOLUTION OF MAY 14, 1915—DR. AFFONSO COSTA AND THE DEMOCRATS RETURNED TO POWER—GERMANY DECLARES WAR—THE "UNION SAGRADA"—EXPEDITION TO MOZAMBIQUE—MILITARY DELAYS—THE REVERSE AT NEWALA—MOZAMBIQUE INVADED—END OF THE "UNION SAGRADA"—DIFFICULTIES OF THE NEW GOVERNMENT—STRIKES AND INTERNAL DISCONTENT—PORTUGUESE TROOPS IN FRANCE—PROLONGATION OF THE WAR WEAKENS THE GOVERNMENT—COUP D'ETAT OF DR. SIDONIO PAES.

TO understand the part taken by Portugal in the war it must be remembered that she was engaged upon three fronts: at home, in Africa, and in France. Her first battles were those waged at home throughout 1914, 1915 and 1916 in support of active military intervention in Europe. Intervention as a national policy was advocated upon three grounds: those of national independence, colonial interests, and the desire to consolidate the Republic. In Portugal the history of events from the first outbreak of the European War in July, 1914, to the Revolution of December 5–8, 1917, falls also naturally into three clearly marked stages. The initial stage, during which the national policy was taking definite form, dated from the first unanimous declaration in favour of the Allies, as voted by Congress on August 7, 1914, on the motion of the then Prime Minister, Dr. Bernardino Machado. The second stage was the beginning of war and preparation for actual intervention, as effected by the "Union Sagrada" Government, which, entering office immediately after the German declaration of war upon Portugal, on March 9, 1916, survived until April 20, 1917, when the first detachments of the Portuguese Expeditionary Corps were already in France. Thirdly, there was a recoil, during the Democratic Government of Dr. Affonso Costa, which, taking office on April 26, 1917, was overthrown by the Revolution of December 5-8 of the same year.

The initial stage was dealt with summarily in Chapter CXLVI (Vol. IX), being prefaced by a rapid survey of the history of Portugal during the years immediately preceding the war, and coming down to the German declaration of war on March 9, 1916. Portugal's participation in the war in Europe was not alone a national policy. It formed part of the larger problem of the Peninsula. It cannot be fairly estimated in isolation. Geographically, Portugal forms an integral part of the Peninsula, although Spain is naturally the "predominant partner." Spain, having promptly declared neutrality, had become the most intensely German position in the world outside the Central Empires themselves. She not alone harboured a large, rich and influential German population, but formed a centre for German propaganda, a propaganda carried on by trade, in the Press, by intervention in internal and international politics—particularly in Central and South America—and in other ways. Thus, though the determining factors in Portugal from the first

favoured the Allies, the country, far from being really distant from the war and not necessarily involved in it—as would appear from its position on the map—was in fact from the very first "in the front," and fighting a difficult, because a largely unrecognized, war, its very national independence being bound up with the victory of the Allies. Politically, Portugal's position has always been one of jealously guarded independence. It is this which explains

[*Benoliel.*

DR. BERNARDINO MACHADO,
Portuguese Prime Minister in 1914.

her traditional loyalty to the British alliance. War tends to obliterate petty distinctions, while accentuating essential differences. The radical difference in policy between Portugal and Spain, declared in the first week of the war, was no idle bravado upon the part of Portugal. It signified the refusal to accept part in the Spanish-prepared policy of Peninsular "neutrality." The Peninsula was not surprised by the war, as was Great Britain. Nowhere in Europe had German preparation been more thorough. When "The Day" came, the policy of Spain was already settled. Spain could afford to "wait and see." She was on excellent terms with the Central Empires. She could trust the Allies not to be hard upon her. She had everything to gain, and, what was even more, nothing directly threatened, or to lose. With Portugal the position was wholly different. Her acceptance, even tacitly, of such a policy of Peninsular "neutrality" as that at once declared by Spain, could not but have placed in jeopardy her colonies, her islands, and her very national existence. That was the choice in 1914. Pressure was used in the Monarchist Press, in business circles, and in the army, to secure her tacit, if not declared, neutrality. Doubt was set at rest—in spite of a significantly divided Cabinet—by the action of the then Prime Minister, Dr. Bernardino Machado, in declaring at once and publicly for the Allies. The first step toward Portugal's active intervention in the war was the unanimous vote of the Congress on August 7, 1914. That unanimity—an almost unheard-of thing in Portuguese politics—was a tribute to the Allies and to Great Britain; it was also in no small degree due to the personal action of the Prime Minister.

Nineteen stormy months passed before that first unanimous vote of Congress was followed by the German declaration of war. During that short time no fewer than seven Governments held office, under six different Prime Ministers and three Presidents, while the country was the scene of three military risings—Monarchist and Republican, —the short-lived Dictatorship of General Pimenta de Castro, and the Revolution of May 14, 1915, planned and carried out under the direction of a special Revolutionary Junta. Internal questions of course played their part in these rapid changes. Many factors contributed. Governments were faced by new, perplexing and urgent political and economic problems. Much pressure was exerted from without. Internally the powerful German colony in Portugal proved an important factor till its expulsion on April 20, 1916—more than five weeks after the German declaration of war. Its influence even then was far from dead. With it millions, so it was stated at the time, passed through the banks into Spain. Thither went the great mass of the colony, and there it remained, exercising great influence upon the political, social and economic life of Portugal, both openly and covertly.

Meantime the internal war of parties and rival policies—the war behind the war—was waged with ever-increasing bitterness. Incentive to division was further afforded by that perennial struggle between the forces of the Right and the Left which is general in Latin lands. In Portugal these names are not employed, and the very existence of such a conflict has been denied. In fact the struggle, though veiled behind a variety of party titles, constitutes the one permanent political factor,

as in old England the rivalry of Whigs and Tories, or of Liberals and Conservatives. The poles of opposition are further removed, however, upon the Continent than in England, and the conflict is far more bitter and less scrupulous. Broadly, the Right is constituted by Capital, Conservatism, the Roman Catholic Church, and what abroad is known as Reaction. The Left includes Liberalism in Church and State, Labour, the forces of Democracy and social and political Reform, and with these the advocates of Revolution. Both camps include extremists such as in England are rare. These factors profoundly influenced the internal situation. The Left before the war had won for themselves in years of revolution such rights as in England had been slowly acquired during generations. There had clearly set in a deep and powerful reactionary wave. Germany and the forces faithful to the Central Empires sought intelligently to make use of this. In Latin lands organized "disorder" is a recognized political weapon. Thus throughout the Peninsula "order" and "discipline" were diligently preached by political elements which were the first to stimulate unrest, with a view to wholesale terrorization. Anarchic doctrines were in part spread by enthusiasts of the Left. Anarchic action in the Peninsula was far more frequently due to incitement by elements of the Right, in order to terrify the more moderate mass into sanctioning violent repressive measures from a wish to insure the public peace. These Machiavellian methods of party warfare had been systematically employed in Portugal before the war. They were intensified during its continuance. They resulted in the creation of almost permanent political unrest. This result it was deliberately sought to produce. England has long been faced with the same thing in Ireland. As there the root has been the same. No element has been so important in thus dividing and weakening the nation in face of the common enemy as the Roman Catholic clergy.

Thus, while internal party questions ostensibly led to the overthrow of the six Ministries which successively held office during the 19 months of the initial stage, in reality behind all these crises lay the question of intervention and the war. They followed closely the efforts made to determine Portugal's participation. They coincided also in a manner not to be overlooked with kindred movements in Italy,

THE REVOLUTION OF MAY 14, 1915.
A corner of the Rua Ferregial de Baixa, in which the British Consulate is situated.

France, Spain and other lands. The same newspapers—those for May 16, 1915—announced the unexpected crisis in Italy occasioned by the resignation of Salandra, with his reappointment to head the Ministry which decided Italy's intervention, and the nomination of Senhor João Chagas, the actively Interventionist Portuguese Minister from Paris, to head the Government called into being by the Revolution of May 14, 1915, unquestionably to determine Portugal's active military participation in the war in Europe. So, too, in 1917, when Portugal's participation had at last become a fact, and the first Portuguese contingents had landed in France, the same newspapers contained the news of the fall of Romanones and the Liberals in Spain and that of the "Union Sagrada" Government in Portugal. So closely was Portugal's war policy linked with that of its Latin neighbours, that to attempt wholly to isolate it means largely not to understand it. The war was a war of differing political systems much more than a war of nations, systems having frontiers wider than those of countries or continents. This must be remembered in treating of so relatively small a field as Portugal.

A knowledge of the facts, too, cannot but induce a temperate judgment of the errors and excesses of these difficult and storm-tossed years, together with a just appreciation of the really great work achieved both within the country and abroad during this time of testing. Sufficient credit has not always been given by outsiders to the greatness of the effort represented by the work of these short-lived, hard-worked, and frequently apparently futile war ministries. They have been much attacked, and not a little maligned. They attempted much, and unquestionably were responsible for many and grave errors. But more than their errors, after all is said, were the creation from what, in the words of the Minister of War in January, 1915, was "wanting in everything," of those forces possessed by the country in December, 1917, and the efforts which before the end of November, 1917, had placed two Divisions in France. That work Portugal and the Allies must not forget. It was the work of these few, stormy and broken months. The gratitude of the British Staff and of the nation is due not alone to those who took the field, but also in their measure to those broken and defeated politicians whose work at home it was that alone made that military effort possible.

Portugal, it must be remembered, voluntarily decided on intervention on behalf of the Allies, instead of accepting a merely passive *role* as a

[*Benoliel.*

DEPARTURE OF THE FIRST CONTINGENT OF PORTUGUESE INFANTRY FOR FRANCE.

semi-belligerent, or declaring for neutrality. Further, her intervention in France was deliberate as well as voluntary; it was the result neither of accident nor of imposition. It represented a definite national policy, planned decidedly, worked out with passion and persistence, in face of great and continuous opposition, both open and covert. It was only finally realized at cost of much courage, pertinacity, and sacrifice. It signified a great national effort, accepted for great national ends. It was sometimes asked: Why should Portugal have entered the war at all; or entering, why should she not have limited her intervention to the garrisoning and defence of her African colonies? The questions show a failure to understand the real national position. As stated before, the determining factors in Portugal's acceptance of intervention were three: national, colonial, and political; for the war appealed to the Portuguese at once upon the grounds of their national independence, their colonial interests, and their political principles.

First, as throughout their history, came the question of national independence. The parallel existing between the geographical and political positions of Portugal and Belgium was close. Both countries were small; both were situated beside much larger and rapidly developing neighbours; both were possessed of ports of rare value, naturally fitted to serve not alone their own territory, but also that of their great neighbour; in both cases the rivers on which these ports stood had their sources across the frontiers. Further, both lands, though themselves small, were the possessors of vast colonies in Africa, set in each case between the former German colonies and those of Great Britain and France. Thus, within the strictly limited area of the Peninsula many of the problems of the European position are reproduced. What Belgium is to lower Europe that is Portugal to the Peninsula. The excuses advanced by friends of Germany as justifying her deliberately planned schemes for national spoliation—the necessities of the geographical position, her rapid internal development, her lack of colonies permitting of her adequate expansion—all have their application in the Peninsula. So, too, the Pan-German claim that Germany must control her rivers from their sources to the sea, and command those ports which form the outlets for her industry and give entrance to the raw material of which she stands in need; for as the Rhine is German in origin, the Tagus and the Douro take their rise in Spain; while Lisbon in its relations with South America and Africa represents in the Peninsula much what Antwerp has done as the first port for Lower Germany. Thus, though there were demonstrations of sympathy with German ideals on the part of devotees of the gospel of the supreme right of military

SENHOR JOÃO CHAGAS,
Portuguese Prime Minister 1911 and 1915.

force in Portugal, as elsewhere, at the beginning of the war, it is not surprising that the people and their Government elected to take active part with the Allies in support of the cause of nationalities and of international law. With the victory of these Western democratic ideals was bound up the very existence of Portuguese nationality, while no country in Europe—not even Belgium itself—stood to lose more than did Portugal by the victory of those ideals represented by German military imperialism. This the people felt. From the dangers inherent in their position they turned, as always, to the British Alliance, recognizing that, fighting with Britain in France, it was for the independence of Portugal that they fought.

Only second to the question of national independence ranked that of the colonies. Here again the similarity between Portugal and Belgium was close. To both countries the colonies meant much. In a national sense it is probable, indeed, that the colonies meant more to Portugal than to Belgium. Belgium's African possessions had meant much to her in the matter of immediate wealth and rapid internal development. They had not their

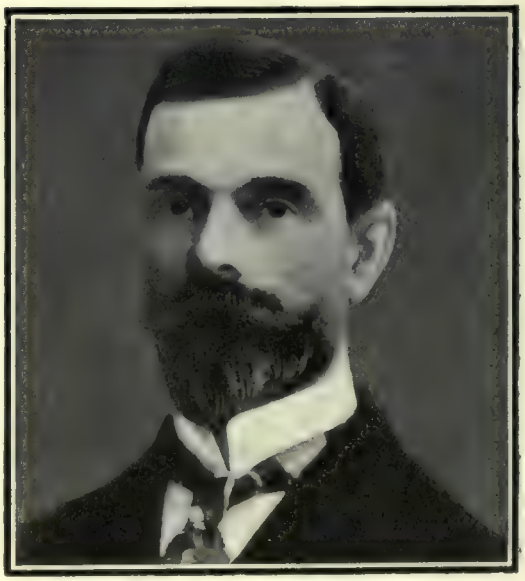
roots in the very substance of her national history, however, as had those of Portugal. Vast, and in great part yet unoccupied and undeveloped as Portugal's African possessions were, it may yet be truly said that the soul

THE PORTUGUESE COLONIES.

of Portugal was in her colonies. They were the heritage of her past, and her richest guarantees for the future. With their history was linked that of every historic house in Portugal.

The question that presented itself to those responsible for the national policy was: How were the colonies to be best defended? Again the parallel with Belgium was close. Belgium, though smaller far than Portugal, took rank among the great colonial Powers. Her great African possessions she held not by force of arms, but in virtue of international accord. Portugal, though her titles went back to the days of the first great African discoveries, held her vast colonial empire not by arms, but in reliance upon treaty rights and international law. Similar dangers threatened both Portugal and Belgium should the German doctrine of the sovereign right of force prove victorious. Belgium was offered a German "neutrality" in the beginning of the war. She elected to fight—for her independence and her colonies. In Portugal there were those—particularly in colonial circles, because there the immensity of Germany's preparation was perhaps best understood—who advocated a "wait and see" policy. The mass of the nation, with its democratic leaders, held other views. Rather, they elected to make Portugal's claim to consideration turn upon her active assistance of the Allies in defence of the principle of national rights as dependent, not upon mere military or political force, but upon international law. In voluntarily taking her part in the war in Europe Portugal fought for her colonies and their future. These, the Interventionists held, could be defended more effectively in France than even in Africa. They recognized, in common with our own great Dominions of Canada, Australia and New Zealand, in common with the United States and Brazil, that it was in Western Europe that their fate and that of Africa was to be decided, and that in defending the sovereign rights of treaties and international law there they were defending their own.

A third and scarcely less immediately potent factor in deciding the national policy was the question of the consolidation of the Republic. Narrower in scope than the national or the colonial issues, its immediate political importance was immense. A recognition of this fact is essential to an understanding of the Inter-



SENHOR EUZEBIO LEÃO,
Civil Governor of Lisbon; Minister in Italy, 1918.

ventionist position and the policy of those Governments by which Portugal's actual participation in Europe was effected. The effort entailed was a great one, greatly straining the resources of the nation, and of the parties. Into that effort the Republic and its leaders flung themselves ungrudgingly, feeling that in fighting for the Allies they fought also for the Republic, the prosperity of which they

THE PALACE OF THE CORTES, LISBON.

believed essential to the future of their country. Unquestionably, the Interventionist leaders saw in intervention a great opportunity for the consolidation of the Republic, by winning in war a right to the consideration of Europe and the world, thus securing for the Republic that respect and moral support abroad which it had largely lacked. With the fortunes of France, too, the future of Republican institutions in Europe was intimately connected. Thus, fighting in France, Portugal sought the defence of her nationality, her colonies, and her Republic.

From the first the Republic showed itself definitely pro-Ally, though there existed differences of opinion among Republicans as to intervention, the form that it should take, and as to whether it ought not to be limited to Africa. Military intervention in Europe was definitely set forth as the national policy of the Republic in the written statement of policy handed to the then President, Dr. Manuel d'Arriaga, by Dr. Affonso Costa, the Democrat leader on January 15, 1915. That statement had the support of the Democrat Foreign Minister, Dr. Augusto Soares, and of Dr. Bernardino Machado. Of its five numbered paragraphs the first two were :

1st. It was well for the Republic voluntarily to commit itself to take part in the European war beside England ;

2nd. That the material that might be considered indispensable, in order that a Portuguese Division should leave immediately we might be called upon, should be prepared, the Foreign Minister negotiating this call for the first moment in which we might be prepared, and this, if it were possible, for the coming summer.

To the unflinching prosecution of this Interventionist policy, in face of continuous opposition, the presence of the Portuguese Expeditionary Force in France was due. What the opposition was may be gathered from the words of Senhor Anselmo de Andrade, the last Minister of Finance under the Monarchy, who in a new edition issued only in 1917 of his work "Portugal Economico," expresses the attitude of his class with notable clearness :—

The Portuguese murmur, and allow themselves to be led. . . . Public opinion is a chimera. The Governments do not govern against public opinion, but without it, which is worse. They govern as they wish, and not seldom directly contrary to the wishes of the country, when with a rare understanding of its real needs it does indeed express its will. This has been shown now more clearly than ever and is still being shown. In Portugal they did not wish the war, but a government, without even giving explanation to the country, ordered our troops to the war, and the troops went with a passiveness that was pitiable, in the midst of the most absolute and perhaps unexpected indifference on the part of the public. At our side, in neighbouring Spain, when there has been a suspicion as to the breach of neutrality, its population, divided between peace and war, have at once clearly made their will felt. Here not even the voice of hate was heard, and how great was the hatred of our intervention in the war everyone knows. From the north to the south of the country there were those who called it madness, there were those who called it crime, but in whispers, that they might not be heard. When we have had a public opinion it has been so.

There spoke old Portugal. But these words, though in their hopeless pessimism truly depicting the attitude of a great and influential class, particularly among the Monarchists of the old school, were in no way true of the people as a whole. They knew, despite lack of propaganda and of political education, the real national interests which linked Portugal with the Allies. But the adverse current was

[*Benoliel.*

DR. MANUEL D'ARRIAGA,
President in 1915.

strong, and one that gathered strength with the collapse of Russia and the disaster in Italy. That among the Monarchists there were those who accepted intervention purely as a national policy, or declaredly out of loyalty to the English alliance and to the express orders of the ex-King Manuel, does not alter the fact that the original declaration on behalf of the Allies was publicly made by the leaders of the Republic; that the Portuguese Expeditionary Corps was organized and sent to France by the Republic; and this to fight for the nation, the colonies and the Republic. The country, tired of repeated ineffective but none the less disastrous Monarchist incursions and risings, wished the question of the *régime* definitely set at rest. The Republic, staking upon it its own future and that of the nation, voluntarily declared for intervention as the surest way to consolidate the Republic and thus win internal peace. In placing two divisions in France at the end of November, 1917, she realized the greatest national effort of centuries, and earned the right to count upon the loyal support of the Allies.

By his declaration in favour of the Allies in the Congress on August 7, 1914, the then Prime Minister, Dr. Bernardino Machado, united the Chamber. His Interventionist policy aimed at uniting the country. It ended by being accepted as the national policy. Before that acceptance it divided Republicans and Monarchists, the nation and the Chamber, and his very Cabinet. As in the case of America, it was Germany herself who ultimately decided the victory of Interventionism. But meanwhile Portugal appeared as halting between intervention, for which she was unprepared, and a strange nondescript state of semi-neutrality, which

DR. BRITO CAMACHO,
Leader of the Unionist Party.

might lead anywhere and end anyhow. This apparent indicision was natural and symptomatic. The friends of the Allies were unprepared for war, as were the Allies themselves. The friends of Germany throughout the Peninsula pressed the advantages of "neutrality." "No neutrality!" was the meaning of the Prime Minister's declaration on behalf of the Allies on August 7, 1914. But the advocctes of a "wait and see" policy were many and

able. They had place in the Cabinet itself. At their head was Senhor Freire de Andrade, the Foreign Minister, supported by the Ministers for Marine and the Colonies. The Prime Minister, however, was Interventionist, and he was supported by his Minister for War, General Pereira de Eça. Intervention was the meaning of the mobilization ordered on

[*Benoliel.*

DR. AFFONSO COSTA,
Prime Minister and Minister of Finance, 1917.

October 17; of the Military Mission which left Lisbon on October 18 to meet Lord Kitchener in London. Portugal's belligerency was declared to Spain on October 19. That things then went no further was due first to the Monarchist risings at Mafra and elsewhere on October 20, when certain of the troops broke barracks to the cry of "Long live the Monarchy! Down with the War!"; and, secondly, to the divisions fomented among the Republican parties in the Chamber. Of the three recognized parties—the Democrats, led by Dr. Affonso Costa; the Evolutionists, under Dr. Antonio José d'Almeida; and the Unionists, under Dr. Brito Camacho—the first alone appeared to know its own mind. All were pro-Ally. The Democrats pressed for intervention. The Opposition—Evolutionists, Unionists and Independents in the Chamber, and Monarchists and Catholics in the country—agreed in one thing: they hated the Democrats and sought to frustrate them. Active intervention was unquestionably the meaning of the session of November 24, when on the return of the Military Mission the British invitation was publicly read: "The British Government, with profound gratitude, invites the Portuguese Government to contribute in fact as jointly stipulated between them with its military cooperation." ("O Governo Inglez convidou com intranhavel reconhecimento o Governo Portuguez a contribuir de facto consoante entre ambos se estipulasse com a sua cooperação militar.") The effort then made failed. That this was not due to want of will on the part of the Prime Minister or his Minister for War is proved by the decree mobilizing a division to be formed from elements of the 1st and 7th divisions, published on November 25, and by the Army Order fixing in detail the composition of the Division, issued on December 1. Yet before the week was out the Government had fallen, owing to the implacability of the Opposition with regard to a colonial appointment, and Dr. Brito Camacho could write in his paper,

[*Lazarus.*

DR. AUGUSTO SOARES,
Minister of Foreign Affairs, 1915-7.

[*Benoliel.*

GENERAL PEREIRA DE EÇA, COMMANDER OF THE FIRST DIVISION, formerly Minister of War (on the left), and LIEUT.-COLONEL SINEL CORDES, CHIEF OF STAFF OF THE DIVISION.

the *Lucta*, for December 19: "If there had not been in the Ministry for Foreign Affairs a man such as Senhor Freire d'Andrade, the managers for the war (os emprezarios da guerra) would have fully realized their plans." Combated relentlessly by the other parties, the Democrats continued to place intervention to the fore. The parliamentary Opposition—Evolutionists, Unionists, and the Independents led by Machado Santos—refused to heed anything beyond the internal question: that of the coming General Election. Hence resulted the strange and apparently undecided course kept by the nation throughout 1914, 1915, and until the German declaration of war on March 9, 1916. Thus Portugal's active participation in the war in France was the outcome of the Democrat policy put forward by Dr. Affonso Costa and Dr. Augusto Soares, and supported by Dr. Bernardino Machado in January, 1915. It was then stopped through the personal action of the President, Dr. Manuel d'Arriaga, in his appointment of General Pimenta de Castro. In this appointment he was at that time supported by the whole Opposition—the Evolutionists, Unionists and Independents in the Parliament, and in the country by the Monarchists, Clericals and all the reactionary elements, who feared the establishment of the Democrats permanently in power should they prove successful in the coming General Election and in their pro-war policy. The Revolution of May 14, 1915, was the natural recoil against the personal action of the President and his supporters, in view of the obvious preponderance acquired by the extremists of the Right, who clearly aimed not alone at checkmating their Democrat rivals, but at crushing them absolutely as a political force, preliminary to the subversion of the Republic. The Democrats were restored to power by the Revolution of May 14, and with that power consolidated by their victory at the polls on June 13 had at once begun to press forward preparations for the realization of their Interventionist policy. This was delayed until the autumn in consequence of an almost fatal accident to their chief, Dr. Affonso Costa, on July 3. Only at the end of November—the 29th—was he well enough again to take office. His re-entry on office coincided with a crisis in the war. Through the autumn of 1915 Germany was preparing for her great effort to meet the Allied attack in the spring by the starving out of England. Britain's response was the prompt mobilization of the mercantile marine of the world. Dr. Affonso Costa had

returned to power on November 29. On February 17, 1916, a request was presented in the name of His Britannic Majesty's Government and of the Alliance "for the requisition of all the enemy's ships lying in Portuguese ports." The step was not unexpected. The Monarchist and Colonial Press had for weeks been devoting special attention to this matter of the German ships and its relation to transport and to the immediate and future needs of the nation. It had been sought to prove that Germany was Portugal's best customer; that all idea of the national development of the ports was illusory; and that the appropriation or exploitation of the unutilized shipping in the harbours could but involve the country in useless and ruinous responsibility. On February 23 possession was taken of the ships. On February 26 Italy took similar action. On March 9 came the final German reply. It was war.

The response of the Portuguese Government was prompt. The same day Congress was summoned. Any financial crisis was provided against by the issue of 2,500 contos in notes. Next day Congress met, the German Note was read, and the Government presented its resignation, thus facilitating the formation of a new national Ministry to meet the new situation. Dr. Bernardino Machado was now the President. It was his wish that the new Government should be in the amplest sense national, including all the Republican parties, and representatives of both Monarchists and Catholics. In this he failed. That failure was not the fault of Dr. Affonso Costa or the Democrats. The Government which assumed the weight of the war was Republican throughout. It was formed by a coalition of the Evolutionist and Democratic parties. Costa made way for Dr. Antonio José d'Almeida as Prime Minister. More than this, he himself took office under his old rival, as Minister of Finance, while other of his colleagues occupied responsible positions in the Cabinet. Dr. Brito Camacho held aloof, as did Machado Santos and the Independents.

The new Government of "Union Sagrada" took office on March 15, 1916. It lasted until April 20, 1917. No Government in Portugal's long history was more noteworthy, for it was under this Government that Portugal's actual participation in the war in France was effected. This was due to the reconciliation and co-operation of the two Republican leaders, Dr. Antonio José d'Almeida and Dr. Affonso Costa. That reconciliation was the work of President Bernardino Machado. Without it Portugal's intervention would have been impossible. Great efforts were made to prevent it. What it meant in the way of personal abnegation may be gathered from the fact

[*Ministry of Information.*

PORTUGUESE TROOPS ARRIVE IN CAMP IN ENGLAND.

recorded by President Arriaga in his book, "Na Primeira Presidencia da Republica Portugeza" (pp. 88–89), that when he, wishful to effect a general reconciliation of the parties, projected a banquet to be held in the palace at Belem, at which the leaders should publicly meet, "Our efforts failed, to our great regret, in face of the unflinching resistance of the Evolutionist leader, who, swayed by personal

[*Benoliel.*

DR. ANTONIO JOSÉ D'ALMEIDA,
Prime Minister of the "Union Sagrada," 1916-1917.

dignity and a pride individually justifiable, refused to sit at the same table with the Democratic leader, even though it were the table of the Chief of State." And President Arriaga was the close personal friend of Dr. Almeida, who had originally nominated him for the Presidency. Where President Arriaga failed, President Machado succeeded. Dr. Almeida, though bitterly attacked by all the enemies of Intervention, remained through many hard and critical months loyal to the "Union Sagrada." That, with all which it then meant, and must mean for Portugal, was testimony to the President's success in that most difficult of arts—the art of peace-making.

The Democratic Government resigned on March 10. The "Union Sagrada" Ministry took office on the 15th. The five days which intervened bore evidence to Costa's prompt decision. On the 12th three most important measures were passed. The first conferred upon the Government full powers for ensuring the national defence. The second sanctioned special action with regard to the Press. The third authorized the mobilization of such industries as might be required for purposes of national defence. On the 13th "A.B.C.," the able pro-German Spanish daily, which had circulated largely throughout Portugal, particularly since the outbreak of the war, was prohibited. On the 14th authorization for the mobilization of all shipping was published. On the 15th diplomatic relations with Austria ceased. On the 16th the new Ministry made its first appearance in Parliament, and two new posts were announced—a Ministry for Labour, and another for Supplies and Social Measures. The initial stage of Portugal's war was at an end. Now came the preparation for actual intervention.

The first Portuguese blood shed in the war was shed in Africa. From the first it was evident that whatever might be the attitude assumed by the nation with regard to the European war, tension in Africa was inevitable. Portugal's possession of great colonies, Mozambique on the east and Angola on the west, with frontiers adjoining those of German East and South West Africa, rendered this certain. The territories are immense. Their occupation was but partial. German action had been persistent during recent years on both coasts. The garrisoning and defence of these extended frontiers, in difficult and undeveloped lands, imposed vast responsibilities upon the nation. There were also native risings in Portuguese Guinea, a small colony surrounded landward by French territory, due, to some extent, to German intrigue.

In Chapter CXLIV the dispatch of the first colonial expeditions was noted. On August 17, 1914, just ten days after Portugal's declaration of loyalty to the British Alliance, the Minister for the Colonies required of the Minister for War troops for expeditions to be sent to both Mozambique and Angola. On September 10 and 11 these sailed, under the commands of Massano de Amorim and Col. Alves Roçadas. The full history of these and the subsequent African expeditions remains difficult to write with anything like completeness. Extracts from the official reports were often published rather for party purposes than in order to give a clear and dispassionate account of what Portugal's African war had been. Its main outlines, however, may be indicated with tolerable clearness.

All the facts point to the German plans for the domination of Central Africa as having been cast on a grand scale, aiming at insuring

her the absolute mastery of the centre of the continent, with the command of vast stretches of the coast both east and west. These plans aimed at the domination, if not the absorption, of much of Belgian and Portuguese Africa. While the realization of these wide schemes depended upon Germany's success or failure in Europe there is clear evidence of the original intention of the Germans in Africa to invade the Portuguese territories on their eastern and western frontiers. The German repulse on the Marne converted this intended action into one of frontier skirmishes or raids, aimed rather, as it would seem, at diverting Portugal from participation in Europe than at definite conquest. Indeed, it is interesting to observe how closely Germany's action in Africa would seem to follow the fluctuations in Portugal's internal politics and those of the European military front.

What idea did the dispatch of these first Portuguese expeditions to Africa obey? The reply is to be found in the Governmental "Report with regard to the Intervention of Portugal in the War," published in January, 1917, at the time of the dispatch of the first Portuguese contingents to France. It is there stated:

> Our troops left [in 1914 for Africa] to reinforce the military garrisons of our colonies of Angola and Mozambique, upon the boundaries of the presumptive theatres of war.
>
> The thought of the Portuguese Government, as it would be that of all governments in similar conditions, even among neutrals, was that of preventing any threat to the defence of our territories, it not being long before the facts clearly proved that such a thought obeyed no unfounded fear, but was rather a wise precaution fully justified by the aggressive German temper. Only 19 days had passed from Germany's entrance on war with Great Britain when on August 25, 1914, in regions far from the field of battle in Europe, where the results of the war will be decided, a Portuguese outpost in East Africa, in the north of the colony of Mozambique and on the frontier of the German colony, the outpost of Navina, was treacherously attacked at daybreak by a German force, composed of sepoys and a number of armed natives.
>
> The chief of the outpost, surprised in his bed, was shot on leaving his room, awakened by the noise of the attack, the small garrison alone escaping the same fate by flight to the woods, in view of the smallness of their numbers when compared with their assailants.
>
> The Germans entered the outpost, taking possession of all the objects of value they found there, and then setting fire to it, as they did also in the case of the huts adjoining, and in that of a small village near. All were burnt.
>
> Thus the first Portuguese blood was shed, being shed by the Germans without Portugal's having shown any hostility to them.
>
> The Germans continued in Portuguese territory, carrying on their businesses, living at their ease, alike in the metropolis, the islands and the colonies, without any one troubling or molesting them.
>
> Very soon, however, it was recognized that the attack upon the outpost of Navina was effected in obedience to a plan destined to be put into execution at once should a conflict be established between Germany and Portugal or England, Portugal being allied to England.

SEIZURE OF GERMAN SHIPS, FEBRUARY 23, 1916.

MAP TO ILLUSTRATE PORTUGUESE OPERATIONS IN EAST AFRICA IN 1916.

It is unbelievable that a small number of Germans should take such a grave initiative without the least hostility upon the part of their neighbours, were it not certain that the invasion of our colonies formed part of their Government's plan of conquest.

The attacking party possessed photographs of the wells at Navina. These they had obtained beforehand, this not being difficult as they then presented themselves as friends, although at that time having planned this treacherous massacre. The war having broken, they planned the invasion of our colonies. This same idea was further manifested a little later in the forays made at Naulila and Cuangar. While unable to carry out their aims, their intention was clearly marked, proving what would be the fate of our colonies should it chance that victory should crown the designs of Imperialist Germany. Portuguese blood was shed before German. The methods they employed in Africa, without our having injured them, were the very same as those of which they made use in Europe: the ambush, treachery, slaughter, burning and robbery. The attempted incursion was renewed on October 19 on the frontier of Angola, at Naulila, where Corporal Sereno refused to consent to its realization with impunity. In revenge some days later, the 30th of the month, they attacked the fortress of Cuangar by surprise, in the dead of night, showing the same savagery. As at Navina they entered the fort and massacred the garrison, only one corporal and two native soldiers escaping, having succeeded in hiding themselves. A merchant who was in the fort was also killed by the Germans. Lieutenant Machado was dragged from his room by a cord tied round his neck. When he begged that they would kill him rather than torture him, he was bayoneted. Lieutenant Durão was in his nightshirt when killed, having been roused from sleep by the noise of the attack. The same fate befell a sergeant and a number of white and native soldiers.

At the same time, from the other side of the river [Kunene], fire was opened upon the position from a quick-firer, while it is to be noted that a few days before Portuguese and Germans had met at breakfast, when it had been arranged that due notice should be given in case they received orders to open hostilities.

As at Navina, the Germans took all there was in the fort, including the belongings of the murdered merchant. They then ordered the natives who accompanied them to raze the fort, while they proceeded on their work of destruction.

Marching through the Portuguese territory they put all to fire and sword. The station of Bunja was attacked: that of Sambio burnt; the station of Durico destroyed, being attacked with two quick-firers: that of Mukosto taken and destroyed, the soldiers being made prisoners, though later they succeeded in escaping with the exception of two. If they failed to attack Cuanaval, it was but that there the garrison was in a position to resist them.

These are the actual facts demonstrative of the hostility of the Germans from the beginning of the European War.

It was as a precaution against these neighbours that the first Portuguese expeditions were fitted out. Although reinforced by further troops from the metropolis it is evident that the original expeditions were not upon a large enough scale, or sufficiently provided, to meet the German forces opposed to them in German South-West Africa. This explains the Portuguese reverse at Naulila, on December 18, 1914. On the German side that attack would seem to have been aimed rather at forcing the Portuguese Government to divert its efforts and attention to Africa in place of Europe than obeying any distinct scheme of attack.* Germany understood perfectly well, once she had been checked upon the Marne, that the fate of the war, and Africa with it, would be settled in Europe. No number of local African successes could save her colonies once she was beaten in Flanders. So, too, with Portugal, her whole effort flung into the war in Africa could not avail her against Germany had the European Western front failed to resist the German attack. The crux of the war was there. Germany understood that, and played a waiting game—in the hope of winning in France. When Portugal's leaders resolutely sought to fling every available ounce of the nation's military weight into the contest on the French front, where that weight might most tell, who shall say that they were wrong?

If in Angola the results obtained were hardly commensurate with the efforts made, either in the organization of the expedition or in its conduct, the reason would appear to be that worst of evils to contend with in military affairs—divided counsels at home, this being directly due to the political war maintained without ceasing against the Government. This war aimed at preventing by whatever means the realization of the policy of intervention in Europe. This—the determination of the advocates of intervention from very early in the war—was effected only in January, 1917—after nearly 30 months of war. That it was effected then, after repeated governmental crises, military risings and Revolution, was testimony to the iron determination, persistence and doggedness of the allies of the Allies. That it was delayed so long and so repeatedly was due to the ability, ingenuity, and determination of the enemies of intervention, aided as they unquestionably were by all those whose sympathies were with the Central Powers, if not directly against the Allies.

In Mozambique things passed with the first 1914 expedition less eventfully than with that to Angola. This expedition was composed of the 4th battery of mountain artillery, the 4th squadron of the 10th cavalry, the 3rd battalion of the 15th infantry, and engineering, medical and administrative staff, in all 1,527 men, with 322 horses. It was landed at Port

* Dr. Seitz, the governor of German South-West Africa, alleged that the Portuguese were the aggressors, but no sufficient evidence was forthcoming in support of this allegation.

Amelia (a seaport about midway between the island of Mozambique and the southern frontier of German East Africa), and there it remained till relieved in 1915 by an additional force of 1,543 men under Lieut.-Col. Moura Mendes. This first force, as is stated in an important series of articles published by Lieut.-Col. E. Barbosa, in the *Revista Militar*, "had no well-defined mission, being alone occupied in the garrisoning of certain points of the frontier in the north of the province of Mozambique." While, referring to the action on both fronts—in Angola and Mozambique—he writes: "The military operations have been limited, on the part of the Germans, to isolated attacks upon the positions established, which have been always repelled, we, on our side, having invaded their territory, this giving rise to the important attack upon Newala, from which place we were obliged to retire." After stating, "It is a pity that the laurels gathered and the results obtained did not in fact correspond to the effort made" . . . he adds: "To the country the truth is owing, but for this very reason it should be stated that in Portugal for dozens of years everything connected with the national defence and with preparation for war had been neglected, and that, in these circumstances, to send to Africa troops from the metropolis amounting to an effective force of some 30,000 men, a thing that we had never done, was no easy task, and could not fail to exhibit deficiencies in execution. This, which would be much in normal times, attained the limits of impossibility in an occasion in which war involved almost all Europe, extending its tentacles into America, Africa and Asia." And after detailing some of the many difficulties encountered in the way of fitting out and securing the transport for the expeditions, he adds: "All the errors and deficiencies—if such there be—that may be pointed out in the organization and preparation of the expeditionary forces must be judged only in the light of the absolute want of preparation of our army for the war, the lack of financial resources, and further the time lost in defining our position in face of the European war. If in August, 1914, when the first detachment under the command of the brave officer Massano de Amorim was organized, the objective to be sought in Africa had been marked out, and from that time the expeditions had been organized with precision, method and order, I am certain that notwithstanding all the obstacles to be overcome we should have cut a fine figure in Mozambique. But no; such was not the case, and when our international

[*Benoliel.*

PORTUGUESE TROOPS EMBARKING AT LISBON FOR MOZAMBIQUE ON BOARD THE "DURHAM CASTLE."

[Benoliel.

DEPARTURE OF PORTUGUESE TROOPS FROM LISBON FOR ANGOLA.

situation in face of the war was defined we were not content to co-operate in Africa with our old Ally, and beyond this resolved upon the participation of Portugal in the European theatre of war."

This attitude was naturally that taken up by many in Portugal, more particularly in military and colonial circles. The effort for a nation no larger in population than Greater London to maintain a protracted war upon two sides of South Africa, in largely unoccupied lands, and upon such immense fronts, could not but be great. Behind this lay deep implanted in the spirit of both colonials and many of the military staff a rooted belief in the invincibility of the Central Empires. The colonial war was non-committal. The occupation and garrisoning of the front meant colonial development. Not even Germany could object to this species of "defence of neutrality." Above all, it had the advantage of putting off the "evil day" involved in a clear life or death decision—for the Allies or—for the victors, be they whom they might. There at the back of endless discussions and party skirmishes lay the real roots of opposition to Portugal's intervention. All who know intimately the conditions in Portugal during these long critical months of the war while the fate of the world hung in suspense—as for long months it unquestionably hung in suspense, upon the holding of that heroic Franco-British line in France and Flanders—know how powerful was the belief, especially in colonial and army circles, in the possibility, or even probability, of Germany's ultimate triumph. Only those who know that can truly estimate the obstinate courage which flung aside the ever-tempting policy of "wait and see," and resolutely staked popularity, party, and national existence itself upon intervention.

The Second Expedition to Mozambique consisted of: the 5th mountain battery, the 4th squadron of the 3rd cavalry, the 3rd battalion of the 21st infantry, the 2nd battery of the 7th group of quick-firers, with engineering, medical and administrative forces; a total of 1,543, though without horses.

Lieut.-Col. Barbosa says: "The expedition of 1915 left also without having been entrusted with any definite mission. We were then in the time in which our situation was 'nebulous,' and in which now our neutrality was affirmed, now it was stated that, if not belligerent, we were at least openly upon the side of our old ally England. Thus the months passed until March, 1916, when entering openly on war, the Government decided to

PRESIDENT MACHADO VISITING THE CASTLE OF HAM, ON THE SOMME,
Accompanied by President Poincaré and General Franchet d'Esperey.

take up a decisive attitude in Africa, co-operating with our allies in the campaign undertaken against the German colony in East Africa. In April, 1916, there was thus initiated the organization of the great expedition."

A second expedition had been dispatched to Angola by the Democrat government of Senhor Victor Hugo Azevedo Coutinho on January 4, 1915.

General Pimenta de Castro, on assuming office as dictator at the instance of President Arriaga, on January 23, 1915, had also at once dispatched further forces to Angola, General Pereira de Eça, the active Interventionist War Minister under Dr. Bernardino Machado, being sent on March 5, to command there. On July 10, German South-West Africa was surrendered to the British, under General Botha, this same day Captain Rob. de Miranda being killed in a combat at Quiteve, in Angola. All danger to the Portuguese possessions in East Africa was now over, and on November 7 General Pereira de Eça reached Lisbon, returning on board the Ambaca.

Around the preparations, conduct and command of the third "great" expedition bitter controversy raged. It was the work of the "Union Sagrada" Government, the government formed in March, 1916, in response to the German declaration of war, at a time when the difficulties to be faced in the conduct of a campaign at the further side of Africa were enormously increased by the special vigour of the German submarine campaign.

The expedition consisted of a General Staff, a mixed company of engineers, the 1st, 2nd and 4th mountain batteries; three battalions of infantry from regiments 23, 24, and 28; three batteries of quick-firers from groups 4, 5, and 8; together with medical, administrative and transport services, forming a total of 4,642 men, 1,378 horses, and 159 vehicles. Previously there had been sent out reinforcements for the squadron of 3rd cavalry and three stations for wireless telegraphy together with engineers and staff. The expedition sailed on May 29, June 3, June 27, July 3, and July 8. On July 5 General Gil reached Palma, and assumed command. Palma, situated on Tungwe Bay and near the estuary of the Rovuma river, was close to the German frontier, and had been aptly chosen as the headquarters of the expeditionary force.

Three principal episodes marked the East African campaign of 1916: the re-occupation of Kionga, the passage of the River Rovuma, and the capture and subsequent retirement from Newala.

This campaign aimed at co-operating with the British forces in the conquest of German East Africa. Information obtained as to the strength of the German forces on the Rovuma gave these as consisting of:

European troops, with 80 cannon and 100 quick-firers	2,000
Askaris	20,000
Total strength	22,000

The Portuguese forces were estimated to consist of :

Forces from the Expedition of 1915 ...	1,000	men
Expedition of 1916	4,600	whites
Two companies of whites	200	,,
Republican Guard	150	,,
Three native territorial troops	300	
Ten companies of natives	2,500	
A total of	8,750	

The first objective of the Portuguese forces was the recapture of Kionga. Kionga or Quionga is a triangular stretch of territory between the mouth of the River Rovuma and Cape Delgado, which forms the northern horn of Tungwe Bay. This territory, originally Portuguese, Germany had taken possession of in 1894, thus establishing herself upon both banks of the river mouth, on the north side of which she had erected a factory. The original Portuguese plan aimed at the conquest of the territory on the north bank and the subsequent occupation of Lindi and Mikindani on the coast, as bases for the penetration of the interior. Kionga was abandoned by the Germans, the Portuguese re-occupying the position on April 10, 1916. Stations were established at Namaca, Namiranga, Namoto, Nachima Moca and Nhica on the southern bank of the Rovuma and preparations commenced for the passage as near as might be to the river mouth. At the time there were no British troops in this, the south-eastern, part of German East Africa, and the enemy decided to take the offensive before the main expedition under General Gil arrived.

Namoto was attacked, April 23, by German forces with five machine-guns. The attack lasted from daybreak until half-past ten, when the enemy drew off with the loss of one of their guns. The Portuguese further secured a convoy of provisions which it had been sought to pass under cover of the attack. On May 8 another attack was made, upon Nhica, but was repelled, a further attack being attempted on the 12th, with the same result. Pending the arrival of the 1916 expedition, a naval force from the Adamastor consisting of two tugs and two armed launches entered the river and landed a body of marines on the northern bank, advancing as far as the German factory. Some fortifications were destroyed and native huts burnt. The German forces retired without combat. On the 27th an attempt was made to pass the river at two points. The boats were met, however, with heavy fire from machine-guns, and the passage had to be abandoned, two of the boats falling into the hands of the enemy. Next day the Germans in their turn attacked Unde, a

WATER TANKS OF THE PORTUGUESE ARMY.

Portuguese station on the south bank higher up the river. Here they were repulsed. On June 13 they made a further attack upon Namaca, on the southern bank at the mouth of the river, opposite the German factory, employing on this occasion explosive bullets and hand grenades. They were again repulsed.

On July 5 General Gil arrived at Palma, and

OFF TO EAST AFRICA.
The Under Secretary for War visits General Gil, Commander of the Portuguese Troops.

the concentration commenced for the advance to co-operate with the forces of General Smuts.

Controversy of the bitterest nature raged round the action of this expedition from the time of its sailing till the retirement from Newala on November 28, 1916 There was delay in the arrival of part of the forces, stores and wagons. Horses which arrived in bad condition were allowed to stray. Transport was difficult to obtain and uncertain, the bearers, though well paid, decamping. Whatever the causes General Gil, though his force was now much stronger, especially in Europeans, than any body the Germans could bring against him, delayed action. From the published extracts from the official reports it is clear that in Lisbon the Government never ceased to urge the earliest possible advance, in order to co-operate with the British forces, as planned. On August 13 the Prime Minister, Dr. Antonio José d'Almeida, who was also Minister of the Colonies, telegraphed that "the Government considered it necessary that the offensive should be initiated as rapidly as possible, to avoid the risk of arriving late or of our action proving useless." On September 4, the day on which the British captured Dar-es-Salaam, he telegraphed again, stating that "the Government hold that our prestige as a belligerent nation will be considerably diminished and our interests as a colonial nation prejudiced if an offensive against the Germans be not at once undertaken, by the decided invasion of the territory beyond the Rovuma. England felt it necessary to formulate the desire for the immediate and energetic cooperation of the forces under your command." Similar action was urged on September 6, when General Gil was informed that "the English Government insisted upon our immediate offensive." At this stage, Dr. Almeida having been obliged by bad health for the time to abandon his post, Affonso Costa took his place at the Colonial Office. At this time alike in Europe and in Africa it was then judged probable that September, 1916, would witness the end of the war in East Africa. It was stated that at the Cape in June General Gil had been given to understand that the entire German colony would have been reduced to submission in September. At this very time, too, the Governor General of Mozambique, Alvaro de Castro, telegraphed that "the English consul informs that the campaign should end this month. Direct your attention to our situation, which demands rapid action." Costa's first act was to telegraph: "The Government know that you have already at your disposition sufficient means of transport for the immediate advance of the Portuguese troops, it being for you to decide if all or only a part can go forward at once. It is indispensable that you should not wait for the unloading of the ships, nor for the arrival of further wagons, before commencing the offensive, as it is necessary to avoid that the war end while we are yet at a standstill. This would be a shame to the army and a loss of prestige to the country. In circumstances of such pressure as the present, you should advance whatever the conditions. The Cabinet trust to your energetic action and ask that you will communicate what you purpose doing and furnish constant information as to the action of our forces." A subsequent telegram, sent through the agency of the Governor

General, ran: "The Government, in accord with the suggestions of the Governor General, hold that you should advance to meet the enemy in the direction of Mahenge, arranging with the admiral or commander of the English forces in Mikindani as to the necessary measures for the furnishing of supplies for our forces. You should not delay your action to this end, be the difficulties what they may. The Government assume the responsibility of affirming that at the present time it is better to face a difficult and dangerous action than to remain inactive. We trust soon to receive favourable news." General Gil, in a letter to the Press from which this telegram is extracted, went on to state: "Days before I had received another dispatch from the Minister of War (Norton de Mattos), telling me that I should advance *by forced marches* in the direction of the enemy come what might."

From these telegrams it is clear that in Portugal and Africa the Government fully realized the necessity of active co-operation with their British allies, and sought repeatedly to secure this. The difficulties, particularly in the matter of transport, were great, however, and it was only on September 19 that the passage of the Rovuma was commenced. Late as it was, had General Gil then been able to make a resolute advance or even to close the frontier to the enemy, the war in East Africa would have been considerably shortened and the Portuguese colony saved from being the theatre of operations. As it was, the Portuguese neither penetrated far into enemy territory nor held their own colony against invasion. A first detached column crossed the Rovuma at Nhica, 25 miles from the river mouth, the bulk of the forces crossing at three points lower down the river, aided by the gunboats Adamastor and Chaimite. The first column, though met by opposition from the German forces, established itself upon the northern bank. The other columns crossed without opposition. The wireless telegraph succeeded in communicating with the British forces, which had already occupied Mikindani. After the occupation of the abandoned German positions of Mkembe, Katibus, Nakoa, and Migomba the columns of the centre and the right reached Letocoto, on the estuary of the Rovuma. From Migomba on September 24 part of the staff went forward to meet the British at Mikindani, another force advancing up the river bank in the direction

[*Official photograph.*

PORTUGUESE AVIATION SCHOOL AT VILA NOVA DA RAINHA.

Photographed from an Aeroplane.

of Newala, a position some 20 miles north of the river, and 125 miles distant from Palma. This force, which established posts at Mnasi, Katibus, Tshidia, Missambui and Ntshitshira, at distances of 12 miles, was on October 6 attacked near the River Nhundi. The enemy was repulsed. On October 21 a second column, which had advanced along the south bank of the Rovuma to reinforce it, and effected a crossing at Mocimboa, met the enemy at Nakalala, and, though engaged both on that and on the following day, obliged the enemy to

On November 22 the outpost defending the stream of Newala, the principal water supply for the station, was attacked by German forces supported by machine-guns, who after three bayonet charges drove back the Portuguese to Newala.

Here the garrison were reduced to difficult straits, their only water supply consisting of two cisterns in the fort, which held little water, as the rainy season had not commenced. Between November 22 and 28 the German forces succeeded in surrounding the place and

[*Bastos.*

General Tamagnini. General Pereira de Eça.

MAJOR NORTON DE MATTOS, MINISTER OF WAR, AND STAFF.

fall back, leaving arms, ammunition and wounded.

Newala was taken on the 26th after a severe struggle, much dynamite, hand grenades, material of war and a gun being captured. Twelve days later, on November 8, at daybreak, a further advance was commenced under Major Leopoldo Silva. The commander was fatally wounded in a combat for the possession of the water at Kiwanda, some 16 miles farther north. The column fell back upon the main forces at Newala. These consisted of engineers, mountain batteries, and 35 officers, 37 sergeants, 400 Portuguese infantry, and 496 native soldiers; in all, 977 fighting men, together with 495 bearers.

cutting its communications. Informed by wireless of the position of the garrison, a relief column was formed, Captain Pereira de Azevedo with 70 white troops and 250 natives and two machine-guns setting out at daybreak, November 28, by way of Mahuta. Here he found the enemy strongly entrenched, and was forced after a struggle to retire frustrated. The same night the besieged garrison, after rendering useless their four mountain guns and their wireless apparatus, succeeded in escaping to the woods, arriving the next day disorganized and disbanded at Mocimboa and Nangadi. They were not followed, though some days later attacks were made upon the military positions which had been established, it being

necessary to recall these, with the sole exception of that at Fabrica—(the Factory)—which was maintained as a base for future operations.

"So ended," says Lieut.-Col. Barbosa, "in a manner disastrous for us the invasion of German territory—not alone disastrous from the loss of material, which was great, but also from the profound moral depression to which it gave rise among the troops, already much shaken physically in consequence of the illnesses to which the unhealthiness of the region gave rise.

"The rainy season setting in, and the waters of the Rovuma beginning to rise so as to render navigation difficult, it was impossible to continue operations, these being limited to the re-occupation of the positions established on the southern bank, and to the widening of the area to the north above Fabrica (the former German factory)."

So closed the campaign of 1916 upon the River Rovuma. Towards the end of December it was announced that General Gil had asked to be relieved of his post, and had provisionally handed over the command to Lieut.-Colonel Moura Mendes. In January, 1917, the Governor of Mozambique took over the command.

Thereafter the Portuguese limited themselves mainly to the defensive. In May, 1917, parties of Germans from Mahenge raided far into Portuguese territory, the small garrisons they encountered being unable to stop their progress. The Germans, as stated in Vol. XIII, pp. 431-432, were driven back by a British column which advanced from the south end of Lake Nyasa. In this task, as a British official *communiqué* of July 4 stated, a Portuguese contingent co-operated from the direction of Malanje (south east of Lake Nyasa).

The protraction of the campaign in German East Africa led the Government in 1917 to organize a new expedition. This was composed of units and services similar to that of 1916, with the addition of a squadron of cavalry, a mixed company of engineers, and apparatus and staff for four wireless telegraphic stations. It included in all 209 officers, and 5,058 men—a total of 5,267. These forces sailed upon January 5, February 15, March 19, April 30, and July 2. In view of the depletion of the ranks of the 1916 expedition, which had suffered heavily from illness during its stay in garrison at the mouth of the Rovuma and at Palma, necessitating the return of large numbers to Portugal, further reinforcements were sent out during the summer and autumn. These reinforcements were calculated at 40 per cent. of the effective strength, consisting of 108 officers, 196 sergeants, and 3,205 men,

NEWALA: DRYING-GROUND ON A COPRA ESTATE.

a further total of 3,509. Thus during the year there left Portugal for Mozambique no fewer than 8,800 men. The effort was rendered the greater seeing that these expeditions left almost simultaneously with the dispatch of the Portuguese Expeditionary Corps to France.

"It was necessary to have a will of iron not to lose heart in face of the succession of obstacles," writes Lieut.-Col. Barbosa. "Those who light-heartedly have indulged in caustic phrases, in their criticism of the manner in which the expeditions were organized, have done so in complete ignorance as to the facts, and as having had the good fortune not to be compelled from duty to take part in so hard and arduous a mission."

The same writer places the costs of the maintenance of the African expeditions in Angola and Mozambique at 37,000 contos alone for the charges effected by the Colonial Office to date of writing (March, 1918), while estimating the standing charges for the upkeep of the forces in Mozambique at 2,000 contos. These estimates were apart from those charges incurred directly by the Ministry for War.

The 1917 expedition found much work to do along the frontier. But again when, at the end of November of that year, General von Lettow-Vorbeck and the remnant of the German forces in the field were compelled by Generals van Deventer and Northey to abandon German territory, the Portuguese were unable to prevent them from entering Mozambique. The campaign which followed, when Lettow was chased over almost every part of Mozam-

PORTUGUESE TROOPS DISEMBARKING IN FRANCE.

bique north of the Zambesi, does not fall within the scope of this chapter. It may, however, be stated that Portuguese columns took part in this chase of a very elusive enemy.

The "Union Sagrada" Government lasted for just over a year. That year was a year of resolute, dogged preparation and work such as Portugal had not known for centuries. The Ministry was formed and met to face war; not a passive war in which the nation was to take no real or active part, but a war involving the recruiting, drilling, equipping and maintenance of such forces as had never left its shores throughout the national history.

Speaking on December 2, 1916, on taking office, Dr. Affonso Costa had closed a long list of useful administrative measures which it was proposed to lay before Parliament with the words: "Our idea in laying this summary before Congress is to give a just idea of our earnest wish to make of this Ministry a 'workshop for work.' In the grave hours that are passing, peoples, as individuals, can alone save themselves and dignify themselves by work. We shall aim, then, at being useful." That promise was not belied by the new Ministry. It was naturally lacking in cohesion, but it contained men of ability, energy and courage. The work they were called upon to undertake demanded these qualities to the full. Dr. Antonio José d'Almeida was Prime Minister, as also Minister for the Colonies. The responsibilities of this post, as has been seen, were great. Dr. Affonso Costa was Minister for Finance, and unquestionably the dominant force in the Government. Dr. Augusto Soares continued as Foreign Minister. On two other Ministers fell probably the heaviest part of the task of Portugal's war preparation. These were Major Norton de Mattos, the Minister for War, and Senhor Maria da Silva, the Minister for Work and Social Measures.

Major Norton de Mattos was an ex-colonial. In the spring of 1914 he had returned from the Governorship of Angola. There he had earned the reputation of an energetic, active and far-seeing administrator. He had taken an active part in the Revolution of May 14, 1915, having been one of the five members of the Revolutionary Junta. The Revolution had been followed by the General Election on June 13. On the 15th the Government which had conducted the elections—that of Dr. José de Castro—resigned. On June 22 Dr. José de Castro returned to power with a new Ministry, in which he himself held temporarily the Ministry for War. A month later, on July 22, Major Norton

de Mattos took over the post. That position he retained without intermission under three successive Governments, and until deposed by the Revolution of December 5, 1917. Those two years and a half witnessed the re-creation of the Portuguese Army, the dispatch of recruiting forces and of the 1916 and 1917 expeditions to Africa, and the simultaneous placing of two divisions—some 60,000 troops—in France by the end of November, 1917, preparatory to the great German attack in the spring. That was the greatest military effort ever made by Portugal. It meant much in faith, energy, perseverance and pluck. It was commenced when the auguries favoured the Allies. It was continued through the dark days of 1916, while the German attack closed around Verdun and when the hopes of the summer and the Somme were again deferred; through the darker days of the autumn of 1917, when Russia had collapsed and the Italian front been broken; it was intensified, not slackened, at the moment of the Allies' greatest peril. From the time of his acceptance of one of the hardest and certainly one of the most responsible, positions in the nation, the Minister for War flung himself whole-heartedly and without reserve into the work of war preparation. In January, 1915, the then Minister declared he had found "everything was wanting." Two great and unexplained fires—one in the General Military Clothing Warehouse, on January 13, 1916, when, with Dr. Affonso Costa's return to power, active intervention had again become a certainty; and the other on April 18, in the Naval Arsenal, just over a month after the German declaration of war and two days before the expulsion of the German and Austrian colonists—destroyed much of the stores prepared for the troops. The repeated drains of the African campaigns further added to the heavy demands made upon the army. But it is to be doubted if any of these obstacles was harder to face and more difficult to counter than the persistent, underhand internal social and economic war waged against the Government and its members.

Sr. Anselmo d'Andrade lamented the "perhaps unexpected indifference" displayed when the troops left Portugal. The phrase covered, as he goes on to say, a "hate" that was in truth sleepless on the part of those many leagued influences whose one great wish it was to prevent Portugal's participation in the war.

[Official photograph.

PORTUGUESE ON THE MARCH IN FRANCE.

England heard much, and rightly, as to Portugal's ready patriotism and the real pro-Ally spirit which had as its seal the organization of the Portuguese Expeditionary Corps. Of the immense covert opposition which, bolstered up by every pro-German element in Spain, sought without ceasing to stay Portugal and its leaders, England knew too little. The mobilization, organization, drilling, equipping and final dispatch of the forces to France was a great task. The men who carried it through worked in an atmosphere thick with calumnies and misrepresentations. They were, it was averred, sending the sons of the people to be slaughtered, sold at the rate of so many shillings a head to the British. They were declared to be busy heaping up fortunes for themselves out of the war. In the mildest phrases of the Opposition they were "managers or lessees for the war." If it be recognized that Portugal's intervention in the war was not only a great national policy, but a right policy, and that, despite failures and shortcomings, the effort actually achieved was a great achievement, it must also be remembered that the man militarily responsible for that great effort was the Minister for War, Major Norton de Mattos.

What Norton de Mattos was in the Army, Leote de Rego was in the Navy. Outside the Cabinet, his influence on behalf of Intervention was great. From the first days of the war he took up the work of an active pro-Ally propagandist, both by word and pen. Imprisoned in consequence for breach of discipline by the "neutralist" Minister of Marine, Capt. Neuparth, on his release he redoubled his activity. Though not a member of the Revolutionary Junta of May 14, his action then was decisive in the Fleet. Placed in command of the Naval Division, he was indefatigable in work in the Fleet itself and in pro-Ally propaganda, though like his colleagues bitterly attacked.

The heaviest task of all was probably that of Senhor Maria da Silva, formerly Minister of Fomento, who entered the "Union Sagrada" Government to fill the newly formed post of Minister of Work and Social Measures. The post combined, with many of the duties of a Public Works Office, those of a Food Controller and Directorship of Supplies and Transport. These problems in all countries proved amongst the hardest to deal with. As Minister of Fomento Senhor Maria da Silva had shown

1 2 3

MINISTERS IN THE "UNION SAGRADA" GOVERNMENT.

1, The Minister of War, Norton de Mattos; 2, The Minister of Labour, Senhor Maria da Silva; 3, Lieutenant Leote de Rego.

activity and secured considerable success in the organization of the post and telegraphic services. He was an active Revolutionary of the early days of the Republic and a Freemason. These associations helped to give him many and formidable enemies. Forced to face a threatened shortage of corn, he had recourse to the aid of the Manutenção Militar—a species of Military Supply Association. Opposition on the part of the great landholders and agriculturists, who with the great milling and baking trusts united to put pressure upon the Government, he met by militarily enforced seizure of crops, distribution of flour and grain, and even the temporary military furnishing of Lisbon with bread. Threatened famine was averted, bread baked in the military ovens was for a short time distributed through the police on the closing of the bakeries, of which the vast majority were in the hands of the milling trust, which early in 1914 had bought up the baking combine controlling three parts of the bread supply of the city. The immediate crisis passed. Drastic measures of this nature, however, involved the Minister in such a widespread circle of ill-will that long before the close of 1916 it was clear that his retention of office was impossible. He, for his part, had repeatedly pressed his resignation. No post, however, was less alluring or more difficult to fill, and it was not till the fall of the "Union Sagrada" Government, in April, 1917, that he was eventually superseded.

Both Norton de Mattos and Maria da Silva were Democrats. The Evolutionist party was further represented by Sr. Pedro Martins as Minister of Public Instruction, and Sr. Fernandes Costa, Minister of Fomento,—a ministry for internal development,—the author of a new and important mining law.

Reference has been made to the social and economic war waged against the Interventionist Governments. Nothing is more important to an understanding of the national position. In Portugal, as in other countries, Germany's most potent arm after her failure in her first great advance upon Paris and the coast was this internal war, a war waged with all weapons—in the Press, on the platform, in markets, in drawing rooms, in the workshop and in the public departments, in restaurants,

AFTER THE REVOLUTION.

The late Ministers, Norton de Mattos, ex-Minister for War, and Leote de Rego, ex-Chief of Naval Division, on board the English transport on which they took refuge, and about to leave for Gibraltar.

night-clubs and in the street. This war was carried on persistently in the barracks, and particularly among the officers, where, as is easy to understand, in view of their military traditions and the fact that many of them had received much of their training in Germany and from German sources, there existed a strong and voluble party prompt on all occasions to point out the weaknesses and deficiencies of the Allies and absolutely confident in the ultimate triumph of the Central Empires. For years before the war Germany had played a great social *rôle* in Portugal, in fashionable and artistic drawing rooms and among the intellectuals. This told much in her favour. The old aristocracy and the mass of the Monarchists were distinctly pro-German in sentiment; Clerical circles and political Catholicism were even more strongly so. Thus it was the fashion, even in well-to-do foreign circles, to maintain a critical attitude with regard to the active Interventionist sections. The public men of the Republic were persistently attacked by the circulation of all manner of defamatory rumours and insinuations. Their personal good faith was perpetually impugned, not infrequently by good people wholly ignorant of the men they decried, but sincerely convinced of their insincerity and ready to accept and to repeat every vile and scandalous suggestion put forward in the Opposition Press, or passed from mouth to mouth.

At the same time the economic war took definite form. Till the Revolution of May 14, the Opposition to the successive regularly constituted Interventionist Governments had been essentially political. After the Revolution and the subsequent General Elections this changed. The change was manifest under the two Governments presided over by Dr. José de Castro—the first to conduct the elections; the second, which lasted from June 22 to November 19, 1915, during the months when Affonso Costa lay slowly recovering. This Government found itself at once involved in an embittered commercial controversy arising out of the interpretation to be given to Clause 6 of the Anglo-Portuguese Treaty of Commerce. The clause in question left the decision of the thorny question as to what was and what was not port wine to be settled by the Portuguese themselves. Round this clause viticulturists of the North and of the South were organized and arrayed against each other. Against the Treaty a widespread press

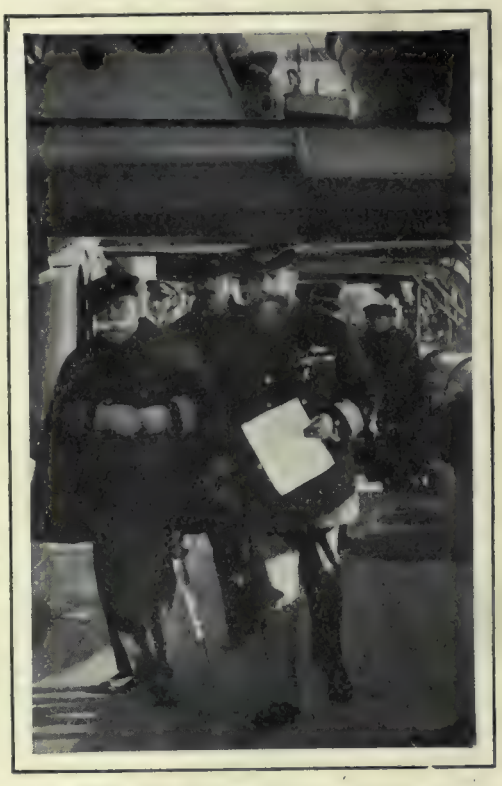
[Benoliel.

NAVAL DIVISION MARCHING THROUGH LISBON.

campaign was carried on. Referring to the matter, *O Commercio do Porto*, the first business paper of the North, did not hesitate to write: "With regard to the Treaty of Commerce with England, there are not wanting those who have called it in the Parliament a masterpiece of dubious drafting and even a veritable mockery" (*uma verdadeira troca*). On July 22 serious riots were provoked at Lamego, resulting in the deaths of 17 persons. In other places strikes, with sabotage, were resorted to. The difficulties occasioned the Government by these tactics were great. Thus strikes occurred among the olive workers on July 30, brass workers (September 13), coal miners at St. Pedro da Cova (September 22), Lisbon civic constructors and furniture polishers (October 19), tinned fish solderers at Setubal—the centre of the sardine tinning industry—(October 19), a general strike at Setubal, as protest against the high prices (October 26), a second strike of the coal miners at St. Pedro da Cova (October 30), Lisbon dock labourers (November 11), a students' strike (November 15), other scholastic strikes on November 18, 19, and 20, with strikes of wool workers at Guimarães in the north (November 27), of market gardeners at Braga, also in the north (November 27), and on November 29 a strike of sempstresses at Oporto.

These movements are in part explained by the increasing economic pressure and the high cost of living, especially in Portugal, where there were no excess profit taxes and no system of adjusted war taxation, and where consequently the full weight of increasing prices, a depreciating currency, and high rates of exchange pressed upon the workers. But these factors do not explain more than a part, particularly the recurrence and extension of the professional and scholastic strikes, as well as the exceptional acrimony that marked internal politics throughout these years of the war, as just before its outbreak. In Portugal, as in other lands, a conscious ferment of strife was added to the normal ingredients of the body politic.

Three features of the anti-Ally campaign in Portugal demand attention, though they were not confined to that country. They did not perhaps elsewhere receive all the attention they deserved. These are: First, the Paper War, as distinct from, though forming part of, Germany's journalistic campaign; the Academic and Scholastic War, a matter of exceptional importance; and the active organization—commercial, industrial, social and intellectual—carried on in grand scale by the friends of the Central Empires. This organization was not ostensibly German, nor always consciously



SENHOR MACHADO SANTOS,
Founder of the Republic in October, 1910, taken as a prisoner on board the cruiser Vasco Gama. He is in the background, behind Lieut. Leote Rego.

German in sympathy. It rather assumed as its devices "order" and "discipline," and proclaimed itself as standing for neither the Central Empires nor the Allies, but for the Nation. In Portugal it aimed at enlisting the sympathy and support of Clericalism and the Roman Catholic Church, of the great interests, the higher finance, organized agriculture, industry, and trade. These forces, united in systematic support of their common and class interests, represented a vast power. These powers—the essentially Conservative forces in Continental society—had little sympathy with democracy, or belief in democratic government. They leant naturally toward autocracy, the hierarchies, and Prussianism. These forces Germany had in great part won before the war. These forces she still counted upon. These forces the Portuguese Interventionists had from the first to face.

The Government "Union Sagrada" took office March 16, 1916. On the 15th telegrams from London had reported the words of Sir Edward Grey on the previous day in the British House of Commons:

The immediate cause of the declaration by Germany of a state of war with the most ancient of our Allies has been the decision of the Portuguese Government to requisition the German ships which, since the commencement of hostilities, have been lying in the home and colonial ports of Portugal. Had Portugal been entirely a neutral nation, without ties or alliances with any of the combatants, her action would nevertheless have been completely justified. The war has been the cause of a rapidly increasing shortage of tonnage in all parts of the globe, and it became clear that in the interests of their country it was the duty of the Portuguese Government to make use of all the available ships in their harbours. This was their view and it was also urged upon them by his Majesty's Government. They accordingly proceeded to requisition the German ships in their ports, explaining to Germany the reasons which prompted them to take this action and promising eventually to indemnify the owners of the vessels. The German ships had been lying in their harbours for more than 18 months; they therefore fell within the broad principle that a State is entitled in cases of emergency to take the property of all individuals within its jurisdiction and to convert it to the public use—a right which is inherent in the sovereignty of the State and which cannot be challenged by any foreign Power.

But Portugal was not a neutral nation in the narrowest sense of the term. At the beginning of the war the Portuguese Government declared that in no circumstances would they disregard the duties of their ancient alliance with Great Britain; and now, as always, they have remained faithful to their obligations as our Allies. They were but following a course of action which would have injured no third party, for requisition would have been followed by payment in compensation, but the German Government saw fit to precipitate matters by a peremptory demand for an explanation shortly followed by a declaration of war, thus altering the whole position as regards the payment of any compensation for the vessels.

It is to be observed that Germany, who now charged Portugal with a breach of neutrality, had herself in October and again in December, 1914, violated the territory of Portugal by raids into the Portuguese colony of Angola, and later by seeking to stir up a native rebellion in Portuguese East Africa.

Portugal may rest assured that Great Britain and the Allies will afford her all the assistance that she may require, and that, having been compelled to range herself on the side of the Allies, she will be welcomed as a gallant coadjutor in the defence of the great cause for which the present war is being waged.

It was at the same time pointed out in *The Times* and elsewhere that three consequences of the intervention of Portugal in the war would be: the freeing of the Atlantic, the new German submarines having no further

THE DEMOCRATIC GOVERNMENT, 1917.

Left to right: Minister of Marine, Arantes Pedrozo; Minister of Labour, Lima Bastos; Minister of Colonies, Ernesto J. de Vilhena; Minister of Justice, Alexandre Braga; Minister of War, Norton de Mattos; Prime Minister and Minister of Finance, Affonso Costa; Minister of Interior, Almeida Ribeiro; Minister of Foreign Affairs, Augusto Soares; Minister of Fomento, Herculano Galhardo; Minister of Instruction, Barbosa Magalhaes.

temptation to attempt the use of the Portuguese islands of the Azores, Madeira and Cape Verde as bases, on the plea of Portugal's neutrality; the completion of the circle being drawn around the German forces in German East Africa; and the effect which the entrance of Portugal in the war might be expected to have upon Brazil.

Definite assurances as to British support were read by the Foreign Minister to the Congress on March 16. On the 18th the Minister of the Interior met a committee of the Press to hear them with regard to the introduction of the *censura previa*. On the 20th decrees were issued ordering the military preparation of the classes in reserve; a suspension of the age limit for retirement from military service, and the medical inspection of all those under 45 and hitherto exempt from service. On the 18th the French Chamber had approved a special message of sympathy with Portugal; the Patriarch of Lisbon on the same day published a pastoral ordering three-day services for the independence, prosperity and integrity of the country. On behalf of the Navy orders were issued on the 22nd regulating the entrance of ships into the port of Lisbon, and on the 25th the northern river bar was closed. Meantime the President's wife, with a committee of ladies, had been at work preparing the organization of aid for the wives and families of the soldiers mobilized for the front, and on the 30th the Cruzada das Mulheres Portuguezas—Crusade of Portuguese Women — was formed; this and the Portuguese Red Cross Society were to vie with each other in good works on behalf of the Portuguese soldiers and their families. On March 27 the first Allied Commercial Conference was held at Paris, Portugal being represented. On the 30th the emigration of those between the ages of 16 and 45 was prohibited. On the 31st the Congress was prorogued.

Full orders for the mobilization had been issued on December 18, 1916. The work of preparatory military instruction was being actively carried on. Lisbon was roused morning by morning by the bugles. The streets were filled with marching columns of troops going out to exercise or returning from it. Night by night the "Alerto!" of watching sentries answered each other from hill to valley through the darkness. The work of drilling and training went on through those months feverishly and without intermission. On May 4 there was constituted the Preparatory School for Officers of the Militia. On July 3 field exercises were commenced at the central camp at Tancos, under the command of General Tamagnini, later to be the first general in command of the Portuguese sector in France. On July 22 a Grand Review was held at Tancos,

DR. SIDONIO PAES,
President of Portugal in 1918.

at which the President, the Government, the Allied Military Missions and the diplomatic corps were present. A second force—the 1st Division—entered on active field training at Torres Vedras on September 23. In August Congress had been specially convoked to consider certain necessary constitutional reforms. On the 31st, after a stormy session and the abandonment of the Chamber by the Opposition, a measure was voted sanctioning the infliction of the death penalty in the field in time of war. The attendance of military chaplains with forces in the field, and the award of the Military Cross for valour were decreed on November 30. It was clear that, despite the many who declared that these preparations would never come to anything,

[Official photograph.

PORTUGUESE AT AN INSTRUCTIONAL SCHOOL IN FRANCE.

the Government was in deadly earnest as to intervention.

On December 13, 1916, a revolutionary movement took place. The movement was promptly quelled. It was headed by Senhor Machado Santos, the leader of the Independents in Parliament, who figured as one of the founders of the Republic, his decided stand in the Rotunda on October 5, 1910, having then proved a turning point in the struggle. He was arrested at the head of a small force at Thomar. A "Diario do Governo," prepared by the revolutionaries, included the names of a revolutionary Government. Among these figured well-known leaders among the Opposition. Many arrests were made; special measures being carried through the Chamber on the motion of the Minister of War for the separation of those involved from the army and the public services. Despite disclaimers of the fact, this movement aimed directly at the prevention of forces leaving for France.

It is significant that just about the same time a series of German submarine attacks were made on Portuguese ships and off the Portuguese coast. On December 3 three German submarines entered the harbour of Funchal and bombarded that town. On the 8th the British vessel Britannia was sunk by a submarine off the coast, as well as a Portuguese lugger, the Briziela. On the 18th two of the ex-German ships, the Cascaes and Electra, were sunk near Bordeaux. On the 19th two submarines were reported off Aveiro; on the 20th a large submarine appeared off Terceira, and on the 21st another passed Sagres. With this evident attempt at intimidation there coincided a renewal of German hostility in Africa. On the 5th telegrams announced a German attack on the East African frontier and the forced retirement of the Portuguese from Naugardi; further attacks were reported on the 16th and 19th. Germany without doubt sought to prevent the participation of Portugal in France, and that by every means in her power, working both internally and from abroad.

With the New Year the submarine attacks were redoubled. On January 3, 1917, a French bark and a lugger were sunk 14 miles from St. Vincent; on the 4th four ships were torpedoed off the Portuguese coasts; on the 5th an Italian vessel was sunk near Sagres; on the 16th a submarine attacked the Setubal, but was driven off. On the 17th the Government pub-

lished a lengthy statement of Portugal's reasons for entering the war, and issued the decree for the concentration of the Portuguese Expeditionary Force. It was on February 3 that the first contingent of Portuguese troops landed in France. On March 1 General Tamagnini arrived to take command. Thus was Portugal's intervention effected.

The troops landed safely in France. Their arrival was met with a chorus of kindly welcome from the Allied Press. At home the country thrilled with re-awakened enthusiasm. In Portugal the Government held on its way, a ship in a heavy sea. All efforts had originally been made to prevent the union between Dr. Antonio José d'Almeida and Dr. Affonso Costa. On

[Bobone.

DR. EGAS MONIZ,
Leader of the Majority, and Minister to Spain.

their cooperation the possibility of Portugal's intervention had hung. There had been the threat of a rupture in the first days of the alliance, the Prime Minister having resigned on April 11, hardly a month after its formation. But he had subsequently consented to retain office in response to a public demonstration on the 12th. For months the two chiefs had worked loyally together. In the two parties, however, divisions were rife. Rumours were spread that, Portugal's participation once effected, Dr. Almeida, whose health had suffered much while in the Ministry, would resign. These rumours tended to weaken the coalition. In response, on March 29, the two leaders on the same platform reaffirmed their continued adhesion to the "Union" and their resolve to maintain it to the close of the war. On the 31st Affonso Costa left for Paris, via Spain.

AUGUSTO VASCONCELLOS,
Portuguese Ambassador to Great Britain; formerly Minister to Spain; Foreign Minister, 1911, Prime Minister, 1912.

Here he met Count Romanones, whose Ministry trembled in the balance between the maintenance of neutrality and intervention. Dr. Costa's stay in France was longer than had been expected. On April 16 Parliament met. The Prime Minister was detained at home by gout. On the 20th a question was raised by a private member of the Democratic majority with regard to the powers conceded by a recent decree of the Minister of Fomento to a newly-formed National Economic Council. The leader of the majority, Dr. Alexander Braga, proposed to refer the matter to committee. The Evolutionist leader refused and pressed a division. The Government were defeated. The same night the Ministry resigned. The "Union Sagrada" Government, upon which so much had depended, was at an end.

It was April 25 when Dr. Affonso Costa reached Lisbon. On his return he had been received by King Alphonso and decorated with the Order of Carlos III. On the 26th the

new Government was formed. Those elements which had provoked the recent crisis were not included. The new Ministry had coherence and ability. Dr. Augusto Soares resumed his place as Foreign Minister, and Norton de Mattos as Minister for War. The Government was reinforced by the entrance of Sr. Ernesto de Vilhena as Colonial Minister, Sr. Herculano Galhardo in the post of Fomento, and Sr. Lima Basto as Minister for Work. Notwithstanding the divisions in the rank and file of the parties, Dr. Almeida continued his support of the "Union Sagrada." Speaking on the 25th Dr. Affonso Costa declared: "The Government just formed will continue the work of that just ended, a work profoundly national. It has been accused of not settling various problems. But these are questions which no single Government can decide. The outgoing Government had not a moment of rest in the work of thoroughly carrying out its functions. Its principal mission was that of preparation for the war. . . . Participating in the war Portugal has won for herself the respect of the world, where she is esteemed and regarded as she would never have been had she not spontaneously placed herself upon the side of those fighting for civilization. We are, it might be said, nearer the world to-day. . . . The national conscience will pronounce upon the work of the Government just gone. We have created a new situation, distant from that which we had formerly held as if we had passed at a bound two or three centuries in the opinion and the respect of the world. We have 30,000 men already on the western front; we shall in a short time have as many more. When one day the position of the small nations comes to be considered Portugal will live, Portugal will progress, because Portugal has worked and fought, sacrificing herself for civilisation."

Such was the conviction of the new Government on taking up their difficult task. It was stated even more clearly in the Ministerial statement made next day in Parliament. "Our intervention in the war is the dominant fact in the national life to-day. Compensation for the painful sacrifices of the present we shall reap amply in a future consolatory and ennobled, that will assure decisively, in addition to the respect of peoples for our well-defined nationality and our complete independence, the tranquil maintenance of our valuable colonial inheritance."

With Portugal's actual participation in the war the internal economic struggle had been accentuated. The Portuguese troops had not been a month in France before Lisbon was at the verge of famine. The crisis of the preceding summer had passed. The struggle between the Manutenção Militar and the milling interests, however, did not cease. Portugal's active intervention was the moment chosen for renewed pressure. The corn supply had run low. Spain, whence grain had continued to enter as contraband, suddenly enforced the embargo on exportation. The bakeries closed all over Lisbon with the announcement that there was no grain. Dr. Affonso Costa's hurried visit to France and Spain would seem to have been due in part to the necessity for supplies. Bakeries were mobbed in Oporto on April 5; there were bread riots in Lisbon on the 7th and again on the 14th, in the second of which one person was killed. These troubles hastened the end of the "Union Sagrada" Government. They involved a terrible heritage.

The new Ministers of Work and of Fomento faced the situation with energy and success. On May 12 an important decree was published empowering the Government to take over all grain and flour in the city, of which the holders were constituted "depositaries," for the Government. The 17th was fixed for delivery of returns. On the 20th attacks upon groceries and bakeries in which there were both wounded and killed took place. The Government had meantime found food, and Lisbon and Oporto were fed. As a consequence of the organized sacking, however, the city was placed under martial law and the guarantees were suspended, General Pereira da Eça being placed in command. Early in the month the Minister of War had left for France, going on from Paris to London, where he was received on May 26 by the King and decorated with the Order of St. Michael and St. George.

The economic struggle continued. A series of strikes of a serious nature followed each other in rapid succession. On April 10 Lisbon had been left in darkness through the failure of the gas supply. On June 13 a gasworkers' strike plunged the city again into darkness. A water strike was added to the shortness of bread. Meantime in Parliament the Opposition continued unrelentingly. The Budget presented in January was still in the hands of the committees in June. Dr. Affonso Costa's financial proposals, however, promised in January, 1916, had not yet appeared. Under the preceding Government, as he said, there had been time

for nothing but the war. More than this the very nature of the Government rendered the introduction at that time of any large or comprehensive financial programme exceptionally difficult. Everything pointed to such a scheme being the Minister's intention. Unquestionably through the spring and summer of 1917 the great interests were on the alert. It was clear the country could not continue to live permanently from hand to mouth with the Treasury dependent upon successive drafts upon the bank, eked out by the issue of notes to supply the place of the gold, silver and copper which, in view of the depreciating currency, was rapidly being diverted into Spain or melted down by the goldsmiths and silversmiths. Challenged directly in the Chamber, Costa replied that his financial proposals were all ready; that they would provide that those who could and ought to pay should pay; but that he was the sole judge when they might best be laid before the House, in the interests of the Treasury, the Government, and the nation. Portugal, it must be remembered, had no war taxation, no excess profit taxes, no system of rationing, no adequate legal defence for the mass of the people against the pressure of the "cornerer" and the "profiteer." The great interests, with a free rein, had enriched and strengthened themselves immensely with famine prices and war supplies. The position of the Treasury was at the same time becoming increasingly precarious. War taxes sooner or later there must be. For the present, however, all the great forces combined to "put off the evil day." Without immense personal strength, supported by a united party, the attempt to put a curb on the great interests was foredoomed to failure. This clearly the Minister had realized. Speaking in the Congress of the party in July he said: "To-day we must deal with the war; to-morrow will be for the great problems." But to-morrow found the Government overthrown.

The Opposition pressed for a dissolution. This being deliberately excluded by the Constitution. they pressed for a revision of the Constitution to enforce it. "Dissolution or revolution" was made the cry. In June a new party of Conservative Republicans was formed. It was headed by Dr. Egas Moniz, one of the party of Dissidents which had worked the overthrow of the Monarchy in 1910. With Dr. Egas Moniz, Dr. Brito Camacho was allied. Writing on June 27 he said: "We believe that a good organization of the conservative forces will oblige democratism to accept the dissolution, and thus the revolutionary agitations and conspiracies in clubs and barracks, which are assuming the air of a chronic complaint in the body politic of the nation, will cease to be legitimate." The movement gathered force.

[*Official photograph.*

GENERAL TAMAGNINI,
Commanded Portuguese Expeditionary Force in France.

Religion, land tenure, and hard economic conditions are the basic roots of most revolutions. These three factors combined to bring about the fall of the Democrats in December, 1917. The land, the Church, and the great commercial and industrial interests were allied against the Government. The proprietary class resented the decree establishing fixed rentals for the duration of the war, while there was wide-spread fear of the imposition of drastic taxation. The Church had no pardon for the

men who had drafted and enforced the Law of the Separation of Church and State and decreed the expulsion of the religious orders. The industrial and commercial companies and trade associations resented the imposition of Government control and threats of State mobilization. The colonials pressed increasingly for a clear statement as to the position of the Government with regard to the terms of intervention and definite guarantees as to the colonies. This it was which gave rise to a demand on behalf of the new opposition *bloc* for the holding of a secret session, to treat of the whole question of Portugal's intervention. Despite the Prime Minister's assertion that there was nothing that might not be publicly discussed, and a lengthy statement by the Minister for War, Norton de Mattos, on his return from England and France, the secret session was insisted on. Begun on July 11, it was protracted until the Opposition withdrew, declaring that the attitude of the Government rendered further meetings useless.

News came in July and August of German attacks on the Portuguese front in France, which it was stated were successfully repulsed. The reports published were scanty, however, and far from satisfying the public. With the autumn and the evident protraction of the war the recoil became daily more marked. On August 14 Affonso Costa stated he had expected the end of the war in the autumn. Its protraction broke the Government.

War cannot be waged "upon the cheap." Strikes in the public services—particularly in connexion with the postal and telegraphic services and certain of the railways—did much to weaken the Ministry. The Government was subjected to a succession of claims for increase of salary for many branches of work—the civil service, the police, the magistracy, the school teachers, and others. These claims were urged in view of the vastly increased cost of living and had naturally wide public sympathy. The pressure upon the Treasury rendered it impossible for them to be met and satisfied, however, and the general discontent grew from day to day. These strikes, too, as also a shop assistants' strike in Lisbon, relied upon the active support of the masters and of the commercial and industrial associations more even than upon the employees. Before this support the vigorous repressive measures of the Minister of War and the suspension of the guarantees, and repeated placing of the capital under military control were alike useless to stem the tide. Interest after interest, association after association, were systematically ranged against the Government as the autumn drew to a close. The Government counted on their numerical majority in the Cortes. The cry became insistent for the substitution of the party politician by representatives of the "vital forces" of the nation—land, trade and labour.

The spark which fired the train resulting in the final crash came from the war with the Church. Certain of the bishops gave their direct countenance to the formation of brotherhoods and sisterhoods in direct contravention of the Law of Separation. Their characters and hierarchical rank were such as to impose respect. The Minister of Justice, Dr. Alexandre Braga, took up the challenge, and published a decree in the last days of November sentencing them to exile. The sentence was to take effect within a week. The week had not ended when the long-brooding Revolution broke.

It was headed by Dr. Sidonio Paes, an officer and diplomatist, and an ex-professor of mathematics at the University of Coimbra. Recognized as an able man, though he had taken no prominent part in party politics, he had held the office of Minister of Fomento in 1911, in the first constitutional Government of the Republic, that of Senhor João Chagas, and had been Minister of Finance for a short time in 1912. In the latter year he had been appointed Portuguese Minister to Berlin, where he had remained till the declaration of war. With him there were associated a Revolutionary Junta of three members, his colleagues being Captain Feliciano de Costa and Machado Santos, who had distinguished himself in the original Revolution of October 5, 1910. Behind this Junta was the *bloc* led by Dr. Egas Moniz and Dr. Brito Camacho. The movement was essentially a popular one and not a political revolution. In it there were united the most divergent elements—Monarchists with ultra-Republicans; the Clerical and the Socialist, the great capitalist interests and the labour associations. Hence its sudden and startling success. This it owed primarily, however, not to the many interests momentarily united, but to the resolution, promptitude and daring of one man, Dr. Sidonio Paes.

CHAPTER CCLIX.

WINTER OF 1917-18 IN THE WEST: EVE OF GERMAN OFFENSIVE.

NEW YEAR, 1918—CAPTURES AND LOSSES IN PAST YEAR—RECONNAISSANCE RAIDS AND MINOR OPERATIONS—GERMAN PREPARATIONS—TROOPS FROM THE RUSSIAN FRONT—GREAT DEVELOPMENT OF AVIATION—ARRIVAL OF AMERICAN TROOPS—OPERATIONS IN FEBRUARY AND MARCH—GERMAN TACTICAL INSTRUCTIONS—GAS—THE EVE OF THE GREAT GERMAN OFFENSIVE.

THE New Year, 1918, was saluted by the British in the West with a tornado of fire directed against the German positions. The change of feeling from that which had existed earlier in the war is worthy of note; it marked the grim determination of the troops to fight the war out to the bitter end, a determination which left no room for even a momentary suspension of hostilities to usher in the New Year. The fire, however, was no splenetic outburst of pointless wrath, without definite aim, but was thrown against points carefully selected and no less carefully registered to ensure a due effect. The heavy guns sounded midnight with twelve simultaneous discharges of all pieces, one for each stroke of the clock, while the field batteries fired salvoes in the same manner. While the "heavies" used high-explosive shell the lighter guns swept the enemy's trenches and the ground behind with shrapnel. The volume of fire was immense and naturally provoked some reply from the Germans, but nothing compared to what we had given them, and a good deal of their fire was in the shape of a protecting barrage in case our heavy artillery discharges portended an attack by the British infantry. But after a time, when nothing of the kind took place, the artillery fire gradually died down and then stopped altogether. The German report, after describing a mythical raid, which was, of course, duly repulsed, and noting an increase of British artillery fire at midnight, adds that there was nothing new to report from any theatre of war.

There was naturally an interchange of messages between King George and the President of the French Republic. The King said:—

> In expressing once again my admiration for the magnificent courage inexhaustibly displayed by France in these years of trial, I desire to assure you of my unshakable confidence in a victorious end to the great struggle in which our peoples are engaged side by side, and of my hope that, in the closest ties of friendship, they may to-day, as yesterday, be seen working together for the maintenance of justice and liberty among the nations of the world.

To this the President replied:—

> The longer the war lasts the firmer is my confidence in the final success of the Allied arms and in the solidarity of the ties which unite for ever the free peoples and the valiant defenders of the rights of humanity. Great Britain and France will have learnt in this hard trial to know each other better, and to appreciate and love one another, and they will gather in domestic peace the fruits of the battles fought in common.

The many New Year messages sent out by Mr. Lloyd George as Prime Minister included two that deserve to be recorded here. To France he said:—

> We wish in particular to thank the French Army and Navy for their fortitude during the past year and their readiness to continue the struggle until justice has been

done and the world has been rid of the domination of that military autocracy whose discredit and defeat is essential to lasting peace. No words of mine can adequately convey our sense of what we owe to the Armies who are fighting and suffering that those behind the lines may enjoy liberty and peace. We can only thank them from the bottom of our hearts in full confidence that the New Year will see the fruit of their sacrifice in the victory of freedom.

And to the United States of America, whose

[*Official photograph.*

GAS SENTRY OF THE YORK AND LANCASTER REGIMENT.

help was destined to be of the greatest importance in the New Year on the Western Front :—

We wish in particular to send a message of thanks to the United States Navy for the great services it has rendered in the past year, and of greeting to the young American Army now training to take its place in the battle for human freedom. We are relying upon the great addition which this Army will make to the strength of the Allies in their joint struggle for a free civilization, and we are confident that when the time of battle comes they will sustain the great traditions set by their own forbears by helping to win a complete triumph for the cause to which they have dedicated themselves.

The Kaiser, for his part, on New Year's Day urged his troops to go "forward with God to fresh deeds and fresh victories." To the men of a division which had suffered heavily in the fighting at Bourlon Wood, and had therefore been withdrawn to recuperate, he said :—"Peace on the Russian frontier is now assured. It remains for each of you to force an early peace on the Western front." Among Hindenburg's messages was one to the chief of the German Naval School, pointing out that the U-boat war had considerably relieved the action on the Western front and adding, "Hand in hand, with God's help, we shall in the coming year achieve victory."

At the beginning of 1918 the British War Office issued a statement of British captures and losses in all theatres of war in 1917 :—

—	Captures.		Losses.	
	Prisoners.	Guns.	Prisoners.	Guns.
Western Theatre...	73,131	531	27,200 (Approx.)	166
Salonika	1,095	—	202	—
Palestine	17,646	108	610	—
Mesopotamia ...	15,944	124	267	—
East Africa ...	6,728	18	100	—
Total... ...	114,544	781	28,379	166

In addition to the gains given in this table, Field-Marshal Haig reported that on the Western front we had taken 647 trench mortars and 2,422 machine guns.* It is desirable also to call attention to the returns for the last month of 1917 with regard to our successes in the air. Altogether 232 aeroplanes were brought down in December ; of these 61 fell to the German, 101 to the British, 69 to the French and 1 to the Belgians. Of the 101 our aviators sent down 78 were dealt with on the Western front and 28 fell to the work of the Royal Naval Air Service acting under the orders of the Admiralty.

January 1 was marked by a further attempt against our new line on the Welsh Ridge. The Germans advanced south of Marcoing on a front of about 1,200 yards. For this movement there were two reasons. The Germans had never failed to recognize the weak point of their position in the low ground in front of the

[*Official photograph.*

AN OFFICERS' DUG-OUT.

Canal de l'Escaut between Marcoing and Masnières from which it would not have been

* He estimated the prisoners taken at 74,349 and the guns at 542, both numbers somewhat in excess of those issued by the War Office The discrepancy is probably due to the complete December estimate of the British Commander-in-Chief not having been included in the War Office returns. The difference in prisoners is 1,118, and Sir Douglas Haig stated in his *communiqué* of January 1 that the number taken in December was 1,018

difficult to drive them by a forward pressure of our troops from the higher ground to the west of it, and in addition the lower level was not a good place to winter in, and they would naturally endeavour to recover their old trench line with its comfortable dug-outs now held by us. Moreover, they thoroughly appreciated the value of Cambrai, and did not wish the British to remain within striking distance of it. The enemy's attack was covered by liquid fire, and he was able to enter one trench and hold it for a short time, but a determined counter-attack soon drove him out again. Our return blow involved close and savage fighting, as a result of which we took and held all the ground lost. Heavy punishment was inflicted by our artillery on the Germans where they were reported to be massing for attack.

For work of this sort air reconnaissance is absolutely necessary, and the superiority of our airmen, the way in which they flew over the enemy's ground, observed, and reported his movements, in spite of the desperate efforts made by his aviators to stop them, allowed our artillery to direct their concentrated fire with great effect on areas where he was massing troops to attack our lines.

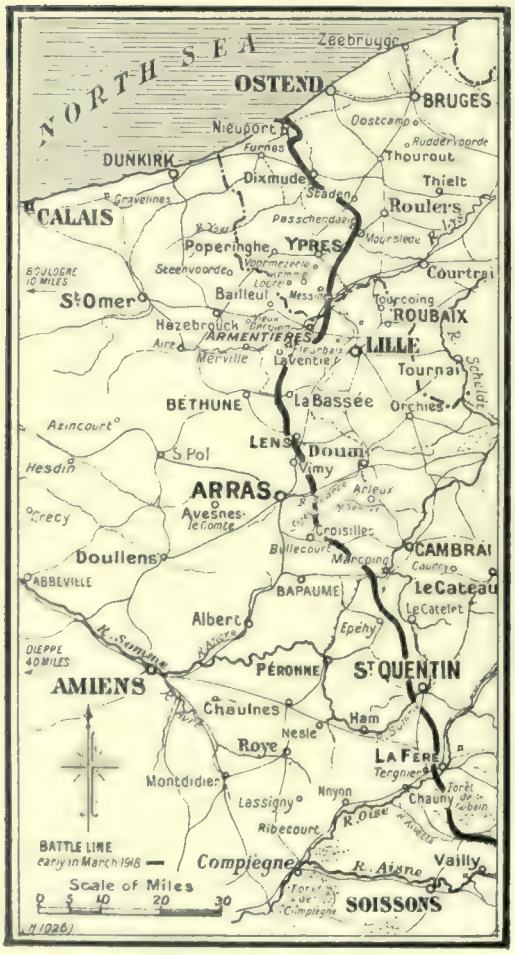
About Méricourt, in the neighbourhood of Lens, three separate attempts were made to raid our front line trenches. Not one of them was successful; in every case they were brought to a standstill and then broken up by our artillery fire. While they retired to their own lines, our parties which were out in No Man's Land fell on them and inflicted further casualties and took some prisoners. Other raids, both north and south of Lens, were also repulsed. Two more were also attempted, one to the north of Lens at Hill 70 and one to the south of that town, both of which were unsuccessful. Near Arras and Oppy, north-east of that town, north of Passchendaele and along the Menin Road, the Germans endeavoured to rush some of our front-line posts, but in all cases they were repulsed before reaching our trenches.

SORTING THE MAILS AT A FIELD POST OFFICE.

The German version of the two days fighting did not differ materially from that of the Allies except with regard to the fighting west and south-west of Marcoing, *i.e.*, towards the Welsh ridge, where they claimed that the number of prisoners had increased to 500. Both sides agreed that there had been some increase in the amount of artillery fire. The same was true of the French: lively artillery fire in Champagne near the Butte du Mesnil, also in

[*New Zealand official photograph.*

PACK-MULES CARRYING GUN-AMMUNITION.



THE NORTHERN PORTION OF THE WESTERN FRONT IN MARCH, 1918.

the region of the Beaumont Chaume Wood and on the left bank of the Meuse north of Hill 304. On the rest of the line the cannonade was only intermittent.

The French on January 1 made a successful raid in the region of Courteçon and brought back prisoners, and collisions took place between patrols south of Corbény. On the same date the French aviators brought down four German aeroplanes and two others seriously damaged fell in the enemy's lines. Our own men disposed of five of the enemy's machines in aerial encounters with the loss of only one of their own. Much artillery registration work was carried out and many photographs taken while our bombers dropped over 200 bombs on various targets, including an ammunition depot near Courtrai and an aerodrome at Ingelmünster.

The next day no important infantry movements took place on either side, although there was still a good amount of artillery fire. The weather was frosty and unsuited to operations which involved digging in. Infantry raids were hardly undertaken and the only attempts made by the enemy, which were near La Bassée, were driven back and a few prisoners were taken by our men. On the 3rd the Germans renewed their endeavours against the Cambrai section of our line. There was a considerable augmentation of the volume of artillery fire directed against our works, and

early in the morning a raid against a British post east of Epéhy was attempted but was driven off by machine-gun fire before it reached the threatened point. There was also a somewhat lively action near Cambrai on the borders of the Canal du Nord which resulted in favour of the enemy, our advanced posts being forced back a short distance. These constant raids and the increased artillery fire plainly indicated the desire of the enemy to come farther forward from his Cambrai position. Intelligence gleaned from prisoners all pointed to a great German offensive. But the weather was not propitious for any large movement. The frost was now very severe and held the country in an iron grip. Snow fell heavily and this added to the difficulties of any German advance. Men moving over snow were shown up so clearly that their movements were plainly visible.* A good example of detriment to concealment which the white-covered ground afforded was shown at Passchendaele. Here the enemy had brought up a large number of trench mortars and placed them in shell craters behind his front line at a range of about 1,000 yards from the position he wished to batter. But when a mortar was fired the discharge made a black patch in front of the piece which so clearly indicated its position to our batteries and machine-guns that these promptly snuffed it out. Still the report that the civilian inhabitants of many villages behind the German lines were being removed to give shelter to troops being brought up from the Russian front served to show that movements of a more aggressive character would soon be made by the Germans. For a time, however, the weather rendered this impossible and the infantry fighting was as a rule unimportant, but fairly constant on a small scale.

On January 5 a strong attack was made on the British position in the Hindenburg Line to the east of Bullecourt. Here our troops were in a comfortable position in the strong dug-outs which the Germans had formerly occupied, whereas the latter had to content themselves with the comparatively new line they had constructed and in which there was little shelter from the weather. The attacking

* The Germans gave as one reason why they were able to surprise our troops on the ground behind the St. Quentin Canal on December 30 that they wore snow shirts, white night shirts, which rendered them invisible. No British report mentions this. The statement was made by the Wolff Telegraph Bureau on January 1.

[Official photograph.

REMOVING A GERMAN SCOUTING MACHINE BROUGHT DOWN IN OUR LINES.

troops showed up clearly against the snow-covered ground and were dealt with severely by our rifles and machine-guns, so that they were only able to secure a footing in an uncompleted sap in front of our first line trench, while even from this they were driven out by a bombing counter-attack in the evening. The remainder of the assaulting party had to withdraw with heavy loss. The German report, with characteristic untruthfulness, described this action as "a strong reconnaissance which was completely successful and a good many English prisoners were brought in."

The experience of the French at this time was much the same as ours. There were several small raids but none of any importance, except one on the 3rd near Anspach (in Upper Alsace) which was completely defeated, the Germans losing heavily and leaving prisoners and a machine-gun behind them. There was an intermittent artillery fire of varying intensity on the Belgian front, but nothing calling for special notice. On the other hand there was somewhat more activity in the air. On January 3 the weather was fine and the French airmen dropped 7½ tons of bombs on the factories at Rombach and the railway stations of Metz-Sablons, Conflans, Arnaville and other points, and also brought down eight aeroplanes and a captive balloon with a loss of only three machines. Our men were also active and during the day accounted for eight of the enemy, besides taking a number of successful photographs of the enemy's front positions and also in his back areas. Further, two hostile aerodromes, the Ledeghem railway junction, various hutments near the Houthulst Forest and billets south of Lille were bombed. Although the weather took a turn for the worse during the night, 300 bombs were dropped by our men on the Gontrode aerodrome and five others. Successful expeditions were also made against objectives in the neighbourhood of Metz at Maizières-les-Metz, the railway at Woippy and the junction at St. Privat. During the next day strong winds prevented long-distance raids, but still our aviators managed to put in a great deal of good work. Over 250 bombs were dropped on Denain (north of Cambrai) and on Menin and Roulers railway station. Many thousands of rounds were fired from their machine-guns on the

[Official photograph.

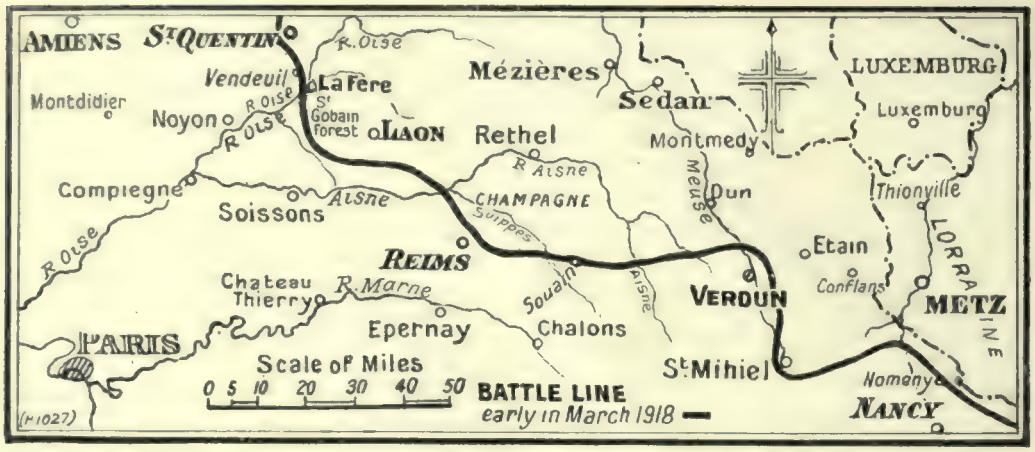
AERIAL PHOTOGRAPHY: HANDING PLATE SLIDES TO A PHOTOGRAPHER IN A BOMBING MACHINE.

[Official photograph.

TROOPS MOVING UP.

enemy's machine-gun emplacements and on his trenches. They brought down 10 of his airmen while losing only five of their own machines. The Naval Air Force raided Ghistelles aerodrome and dropped many bombs among the sheds and buildings without loss, while the French brought down five hostile machines. During the night of January 4–5, although the sky was covered with low clouds and visibility was in consequence bad, our pilots were able once more to bomb the factories and railway communications near Maizières-les-Metz and other targets of military importance in the neighbourhood and to accomplish their work without losing a single machine. The next day the weather allowed but little flying; still some useful work was done. Half a ton of bombs were dropped and some 6,000 rounds fired from our aeroplanes at the enemy's troops and other targets. During the ensuing night the weather was a little better again, and our men were able to drop half a ton of bombs on Ramegnies-Chin aerodrome and other targets. The neighbourhood of Metz was also visited once more; a ton of bombs was dropped on Conflans station and sidings, where a large explosion was caused and a fire started. Courcelles station, also, received half a ton of explosives

The Germans had never been quite contented with their position in front of Ypres, where our trenches now overlooked theirs, and emphasized their views by more or less continuous artillery fire, varying in power. For instance, on the 7th there was an increase in intensity and this was followed by an infantry raid south-west of Ypres, which was repulsed with considerable loss by our infantry and machine-gun fire. The activity in the Cambrai section was also maintained and the Germans made a local attack covered by flame-throwers against our trenches east of Bullecourt. At first they succeeded in gaining a footing, but a counter-attack drove them completely out and re-established the line. Eighteen prisoners were left in our hands. The German official version of this incident runs as follows: "After a short artillery preparation English storming columns rushed forward at 5.30 p.m. on a front of 600 yards to attack our forward positions east of Bullecourt. Under our fire and in hand-to-hand fighting the enemy were repulsed with heavy losses. A great many English dead are lying before our entanglements." It will be seen that the two accounts are radically different. The Germans made us the assailants, and it is hardly necessary to



THE FRENCH FRONT IN MARCH, 1918.

say that, according to them, we were driven back with heavy losses.

There was at this time a striking revelation made in a German wireless report from their Eastern front. It was in the shape of a wireless message from the Russian Government complaining that "men [German soldiers] up to the age of 35 were contrary to the conditions of the Armistice being withdrawn for the Western front." Here was one more example of the value Germany placed on agreements. It was undoubtedly true, and was a proof, moreover, of the necessity they felt for concentrating all available power on the Western front. By the early part of February seven divisions from the Russian front had been identified in France, besides very many men brought over to fill gaps in the divisions already there.

The position on the French portion of the line was much the same, artillery fire varying in force, small patrol fights and infantry raids. On the evening of January 7, however, a more important incident occurred. In the Woevre, near Seicheprey, our Ally carried out a raid on a large scale which was completely successful. French troops penetrated on a front of 1,600 yards into the German defences and then proceeded to destroy the trenches and dug-outs. After doing this thoroughly they returned to their own lines, bringing back 178 prisoners, including one officer and 13 non-commissioned officers, besides a considerable number of machine-guns and trench-mortars. The German version did not much differ from the French, although it magnified the raid into a serious assault, the result of which was that "the enemy penetrated our line of posts; the

A GUN POSITION IN THE SNOW. [New Zealand official photograph.

attempt to gain ground beyond them broke down." As the French were merely raiding this account is obviously untrue.

January 8 was quiet. The weather had been bad for some days, and on this day a blizzard swept over Flanders and Northern France; snow fell heavily and rendered communications very difficult and prevented any serious operations. A German attack succeeded in entering two of our advanced posts north of the Ypres-Staden railway, but was immediately

[Official photograph.

WINTER SPORT NEAR THE LINES.

driven out again. On the French front there were a few small affairs, but with this exception there was nothing to report.

The next few days were of the same uneventful character; artillery fire was more or less intense and there were small local encounters, but under the weather conditions—it began to snow again on the 10th—it was obvious that neither on the ground nor in the air was it possible to conduct serious operations. Whenever a few hours' better conditions enabled our men to take the air they did so. On the morning of the 10th nearly two tons of bombs were dropped on an ammunition dump near Courtrai. On the 13th there was a favourable change; although the weather still continued variable it was at times quite springlike. A strong west wind served to dry the ground to some extent, but it was still quite unsuited for manœuvring over on any large scale. The improved visibility enabled our airmen to do a certain amount of useful work notwithstanding the strength and unfavourable direction of the wind.* Many bombs were dropped on the Germans' billets and 400 on a large ammunition dump near Roulers. Huts and many of their trenches were subjected to machine-gun fire. Among the targets attacked was a party of the enemy engaged in putting out a fire; many were hit and the men scattered, leaving the fire to burn itself out. Seven hostile machines were crashed and three others driven down out of control. Three of our aviators failed to return. Our anti-aircraft guns brought down one of the enemy machines behind our lines, the pilot being captured. During the night of the 13th-14th we dropped bombs on Roulers and Menin and all our machines returned in safety. A few small raids were made by both sides without any particular result. A proof of the efficiency of our aviators was seen by the fact that the Germans with-

* Aviators like a wind which is with them on their return journey. Hence a west wind was favourable to the enemy and unfavourable to us.

drew an aerodrome near Passchendaele to a point 6¼ miles farther back. Our artillery doubtless contributed to this, but it seems certain that the main reason was that it was constantly bombed from the air. Naval aircraft on this date bombed a dump near Engel, north-west of Thourout, with good effect and all the machines came back in safety. The French air report issued on January 12 stated that in the first 10 days of January 15 German aeroplanes and one captive balloon had been brought down besides 12 other machines seen to go down in the enemy's lines, the destruction of which though probable was not absolutely certain.

[Official photograph.

A MAIN STREET IN ARMENTIÈRES.

On the 14th the milder weather departed and snow took its place, covering the ground some inches deep. The same small raids were carried on by both sides, but were of little value, and so far as the enemy was concerned were costly. German prisoners taken by us stated that the infantry only received their orders for raiding a few hours before they were to start and that no officers went with them. The flame-throwers, they complained, were only of a light type, and the Prussian Pioneers (equivalent to our Sappers) who carried them did not like the job, as they received so much attention from our snipers. During one of our raids a document was captured which bore testimony to the efficiency of our gunners. It gave an instance where 18 out of 24 howitzers in a German Brigade were put out of action by our counter-battery fire. It stated that our gas-shells interfered seriously with the bringing up of ammunition and also with the removal of batteries. This often led to the loss of guns. Presumably the teams were killed by the gas.

Early on the 15th the Germans made a strong raid attack which was repulsed north-east of Armentières. The previous night we raided the enemy's trenches north of Lens, destroyed some of his dug-outs and took some prisoners and a machine-gun. On the French front the Germans attacked the Chaume Wood position on a front of about 200 yards. The greater part of the assaulting troops were broken up by the French fire and only a few Germans succeeded in reaching the defences; those who penetrated were at once thrust back by counter-attack. The French made a raid on the German lines near Badonvillers and brought back some 20 prisoners. For the

next three days there was nothing special to report.

The usual artillery fire went on, and a good deal was directed on Armentières. For two years this town had been repeatedly shelled, but now the Germans set to work deliberately to destroy it. Quarter by quarter, street by street, the town was systematically bombarded in mere wantonness. Not a house was untouched, many were rent asunder, revealing furniture and household possessions, which their owners had had to leave behind them, in a mixed up heap of destruction. Many hundreds of women and children were killed or wounded by shell-fire or poison-gas.

The battle-area altogether presented the most complete desolation, being churned by the heavy shells into a sea of mud in which it was always difficult and sometimes impossible to move. We had managed to a small extent to raid through it, and so had the Germans; they had been very persistent and unsuccessful in their endeavours to obtain a footing in our advanced posts near Goudberg, not far from Passchendaele. There, in the neighbourhood of Ypres and also round Cambrai, it was plainly evident that the enemy wished to find out our dispositions with a view to possible advances. Ypres and the north were points at which these could be favourably undertaken. Cambrai was another. The Germans thoroughly appreciated the danger of an advance from Douai and Cambrai.'

Our airmen had a successful daylight raid into Germany on January 14 and another during the night. The first was directed against Karlsruhe, the capital of Baden, and the headquarters of the 14th German Army Corps. The station with its buildings and sidings forming the main railway junction in the centre of the town, together with railway workshops, the munition factories and also the smaller railway junctions, were all heavily bombed. The effects obtained were very good, a large fire was started in the factories alongside the railway and much destruction caused, as photographs taken after the raid showed. Our bombing formation was subjected to a very heavy but futile anti-aircraft fire, and German aeroplanes also attacked our aviators but completely without success, as all our machines returned in safety. The second raid was directed against the steelworks at Thionville, midway between Luxemburg

[*Official photograph.*

BRITISH SOLDIERS SALVING SACRED OBJECTS FROM A WRECKED CHURCH IN ARMENTIÈRES.

MUDDY AND TIRED, BUT QUITE COMFORTABLE.

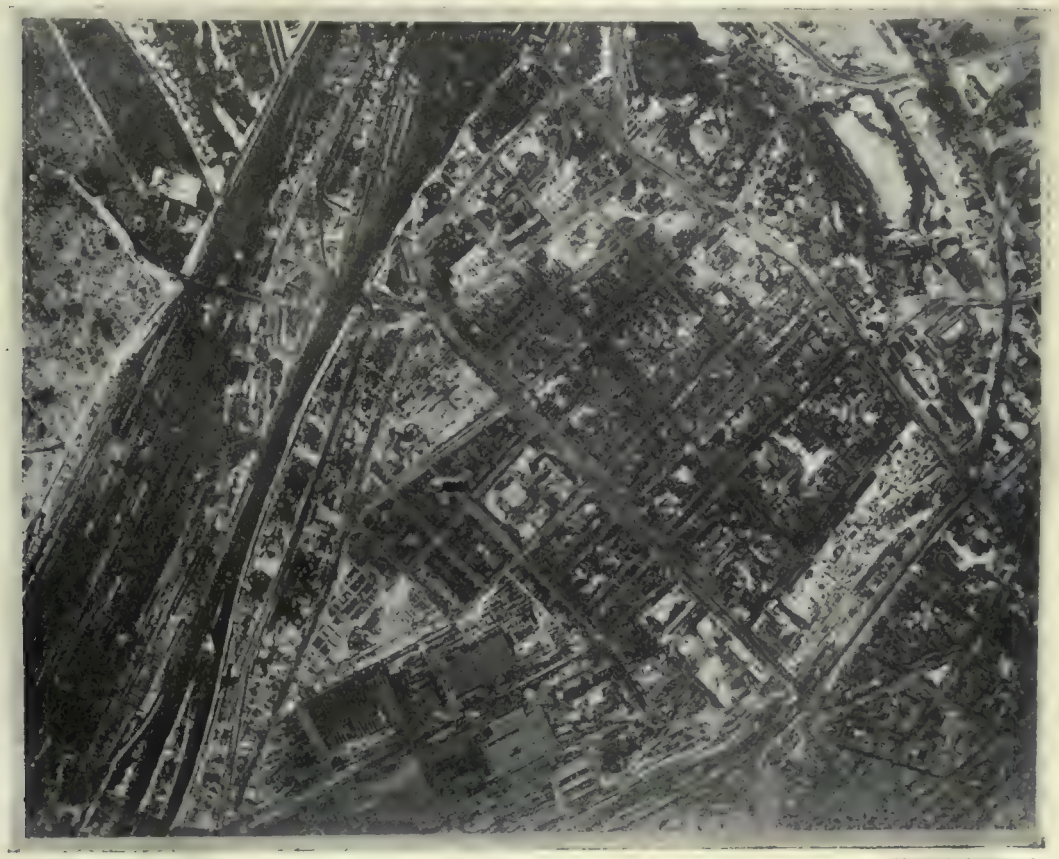
and Metz, where a ton of bombs was dropped with good effect. It had been previously attacked by the French on many occasions and great damage done to the important furnaces and steel mills there. After carrying out this useful work, our airmen went on and dropped half a ton of bombs on two of the railway junctions near Metz, making the fourth attack on this area since the beginning of January. On the night of January 16–17, in spite of very bad weather, bombs were again dropped on important railway sidings near Bernsdorf (30 miles south-east of Metz) and also on the railroad south of Metz.

Up to the 22nd there was no marked or new feature in the hostilities. The British Ypres defences were repeatedly bombarded and Lens also was an object of attention for the German guns. Both sides carried out small raids. A new feature of aerial warfare had been by this time thoroughly well-developed in the shape of what our men described as "ground-strafing"—*i.e.*, they acted against the Germans on the ground in their trenches and fighting positions. The method had been introduced by British aviators and had become more and more a feature of their work. The enemy fliers copied our men in this respect, but the enemy got as good as he gave in this direction, and a very great deal more besides. Our machines went over enemy territory in every direction, and for far greater distances behind the lines than the German airman usually ventured. Thus a pilot and observer made a flight along the whole of a German Army Corps front at a height of 300 ft., and afterwards made four "ground-strafing" trips, firing over 2,000 rounds and dropping 10 bombs. At one point they engaged enemy troops, causing many casualties with bullets and bombs, from a height of 40 ft. These tactics were carried out not only against the enemy trenches and batteries, but against hutments and camps far over his lines. Trains, stations, ammunition dumps, transport, and troops anywhere on the march received these visitations. From 5,000 to 10,000 rounds were often fired in a day and from two to three tons of bombs dropped on suitable targets from the air. The result was—and it conveys far more than mere figures of ammunition expenditure can do—that for many miles behind the German lines transport and troops dared not move by day. The enemy had come to accept the inevitable and to recognize that the punishment they would have had to endure from the air was too severe, and so postponed their movements until dark. The same was to a great extent the case with their working parties.

Our artillery observation machines continued to render their customary good service; the full value was not always known among our troops, and could, indeed, only be ascertained if our air-work failed, and our counter-battery work stopped or slackened. Pilots and

observers often put in long hours, snatching every moment the weather might permit. Among instances which may be mentioned was one where a pilot and observer flew for three hours and 40 minutes, ranging the guns on to a group of hostile batteries, and being thus instrumental in destroying and damaging their guns and pits. Another couple flew and observed for four hours, and another for three and a half. On one occasion, one of our machines got the range of a heavy battery so effectively that our gunners obtained a large number of direct hits, and caused three explosions and two fires in the battery position. During one day 55 enemy batteries were observed, with the result that five guns and pits were destroyed, 16 more severely damaged, and 19 explosions and 16 fires were caused. On the same day 51 hostile batteries were located and reported to our gunners.

Bombing operations continued by day and night almost without interruption—*i.e.*, whenever weather permitted. The heavy gun positions far behind the enemy's lines had large bombs dropped on them in daylight with satisfactory results; trains were hit and set on fire; and rail heads were knocked about.* Particular attention was paid to the aerodromes which housed the Gotha long-distance raiders, and on several occasions destruction to sheds and machines was caused. On the other hand, one of their big bombers was brought down by anti-aircraft fire, and was forced to land in our lines, its crew of three men being made prisoners. An excellent example of the pluck of a pilot lies to the credit of one of our night bombers. The machine was hit by "Archie" fire while on its outward journey with a full load of bombs, fragments of the shell injuring a main spar and aileron and tearing away parts of the lower plane of a wing. The pilot, however, managed to carry on, found his objective, dropped his bombs on it, and returned to his aerodrome. It is not always the men whose deeds receive the most attention that do the best work. There were many men who had each brought down anything up to a dozen enemy machines, and although these individuals



[*Official photograph.*

AIR-RAID ON KARLSRUHE ON JANUARY 14th, 1918: A BOMB FALLING.

* A railhead is the point where troops and stores are detrained for conveyance onward by road. It is obvious that there will always be an accumulation of stores there and very often of troops.

were never heard of by the public and hardly by anyone outside their own squadrons, yet it was largely to the efforts of such men that enemy observers were stopped from coming over our lines, while our machines patrolled and worked over the lines of the enemy. Our anti-aircraft gunners had rapidly increased their skill, doubtless because of their practice on live targets and the number of the enemy brought down by anti-aircraft fire had certainly become larger.

During all this period the run of events on the French front had been much the same. Artillery

FRENCH MOBILE ANTI-AIRCRAFT MOTOR-GUN.

fire, small raids, but nothing on a large scale The most notable raid was east of the Calonne trench, near Les Eparges (south-east of Verdun); the raiders penetrated on the 16th deeply into the German lines and came back unharmed. On the 21st another raid was carried out against the German lines at Le Four-de-Paris, from which three machine-guns and 15 prisoners were obtained. Then on January 20 the French anti-aircraft guns shot down three German aeroplanes and four more were driven down behind their own lines as the result of combats with French aviators. Altogether between January 11 and January 20 the French official reporter stated that 10 German aeroplanes were brought down and four more than had previously been reported had been destroyed between January 1 and January 10, raising the number for this period to 19. On the 24th two more were destroyed, one of which was due to anti-aircraft guns.

On the afternoon of the 23rd an event of some importance took place on the northern extremity of the Allied line near Nieuport. An intense bombardment was directed against an advanced portion of the line east of Nieuport town, held by French troops. The line was then rushed by the Germans, but they were soon turned out again. The next day the enemy succeeded in capturing a few prisoners in an encounter south-west of St. Quentin and west of La Bassée, and we took some north-west of that place. The German version was that a great many prisoners were brought back as the result of successful reconnaissances. Artillery fire on the 25th became rather more vigorous, especially in the Cambrai sector, Bailleul and Poelcapelle.

Sir Douglas Haig's *communiqué* of January 22 reported that the Germans had that morning raided one of our four posts south of St. Quentin. By this time the length of our line had been extended to the Oise. The movement had been carried out very quietly under cover of the bad weather that had prevailed, and was only discovered by the Germans when they attempted a raid, as they believed against the French, on the 25th. We had at Christmas, 1916, taken over the French battle-line on the Somme and a little more. In the fighting which followed the Battle of the Somme, the British line was brought up to within one mile north-west of St. Quentin by the capture of the village of Fayet. The

French were about the same distance from the town on the south, at Gauchy, and when operations were suspended in this sector, their line ran in a south-easterly direction to the forests of Coucy and St. Gobain. After a heavy artillery fire the Germans raided a British post east of Loos and captured four of our men, and the same night we took a few Germans near Lens.

For the remainder of the month so far as artillery fire and infantry raids were concerned, there was no change to note. Cambrai was still a centre of attraction to the enemy, as also was the neighbourhood of Ypres. In the latter region one of our patrols was captured on the night of the 27th–28th, and on the 29th we made a successful raid against a German post to the north-east of Havrincourt and a little to the south of the Bapaume-Cambrai road and killed or captured a number of the garrison. In an encounter between patrols near Bullecourt we captured a machine-gun and inflicted some loss on the enemy.

There was a considerable increase in air activity during the last part of January owing to the weather, which became better though still uncertain. A German bombing plane was brought down near Bulscamp, east of Dunkirk, and the crew of three officers and one man captured, on its return from an attempt to bomb that town on the 19th. On the 20th good visibility enabled our aeroplanes to observe for the artillery all day and

[Official photograph.

HOW THE FORWARD GUN OF A NIGHT BOMBING MACHINE IS USED.

to take many photographs; bombs were dropped and the German trenches brought under machine-gun fire. The next day there was rain, but on the 22nd there came a great

[Australian official photograph.

PREPARING FOR A BOMBING EXPEDITION.

BRITISH INFANTRY ADVANCING TO RAID GERMAN TRENCHES.

improvement in the weather and some smart work was done; seven German machines were smashed and two others driven down out of control, and an observation balloon set on fire. We lost two of our aeroplanes. Some 400 bombs were dropped on billets round Roulers and Menin and on a large dump near Courtrai and some other targets. The next day there was but little done owing to the wet, but on the night of the 24th aerodromes near Courtrai and Ghent were bombed and billets near Roulers, without loss to us.

After the thick morning mist on the 25th had cleared, there was again great activity in the air. Much work was done for the artillery, the large railway sidings at Courtrai and the enemy's billets at Roulers were bombed, as well as other targets. Hard fighting took place all along the line, the results being greatly in our favour. Ten hostile aeroplanes were brought down and six others driven down out of control. One of our machines was missing.

On the night of the 25th-26th our night-flying squadrons were active as soon as it was dark, their activity continuing until about 3 a.m., when a very heavy mist set in and rendered flying impossible. During the fine period of the night over eight tons of bombs were dropped by us, several pilots doing two trips. Five of the enemy's large aerodromes in the neighbourhood of Ghent were bombed and also billets in the vicinity of Douai. Over 160 bombs were dropped on a new aerodrome west of Tournai. All of our machines returned. At the same time other flights raided into Germany. Bombs were dropped on factories and on the river docks at Mannheim. The barracks and railway station at Trèves, the steel works at Thionville and the stations at Saarbrücken and Oberbillig near Trèves were also attacked. The latter town suffered severely, many explosions and a large fire being caused there.

On January 26 there was, at first, very little activity in the air owing to the dense mist. After this cleared the usual observation was carried on. Courtrai and Roulers were bombed; in the air encounters we were very successful, driving down 16 machines while only one of ours was lost. During the fine period of the ensuing night—*i.e.*, up to 3 a.m.—some pilots in two trips dropped no less than eight tons of bombs. Five large aerodromes in the neighbourhood of Ghent were dosed and also billets near Douai, and a new aerodrome west of Tournai received 160 bombs. At about midday on the 27th the railway station and communications at Trèves were bombed, but a heavy mist over the objective prevented our pilots from observing the exact location of the bursts. All our machines returned safely.

January 28 was a very fine day, and our aviators took advantage of it to do a great deal of photography and also bombing. Roulers, Menin, and an aerodrome near Tournai were dealt with, and a good deal of "ground strafing" was carried out.

On the 29th naval airmen bombed the Coolkerke aerodrome north of Bruges and did great damage—fires were caused and buildings destroyed. Notwithstanding poor visibility, some close work was also done by the Army machines, and a good deal of fighting took place with the enemy. Twelve of the enemy machines went down and an observation balloon was set on fire. Throughout the night the Germans were very active against us, dropping many bombs on our forward areas while our men actively attacked hostile billets and communications. Day after day, night after night, our gallant aviators gave the enemy no peace. They had thoroughly obtained a superiority in the air and caused destruction far in excess of anything the Germans were able to inflict on us.

During this period from January 24 to the end of the month the French had been carrying out raids and dealing with counter-raids. In Alsace, on the Meuse, about Reims and in Champagne they took prisoners and destroyed trenches. Their bombers had also been active. On the 27th one squadron dropped six tons of bombs on the railway near Conflans, the factories near St. Privat and on several aviation grounds.

The German air report of January 29 complained that French airmen made attacks on their hospitals. "Several times during the month of December they dropped bombs on the hospital buildings of Rethel and during the last few days they have attacked the buildings of Labry (east of Conflans)." The assertion was a deliberate misstatement, and came with a particularly ill-grace from the Germans. So far back as August, 1917, the charge was made against German airmen that "they are now deliberately selecting our hospitals and clearing stations for attack." Proof of the charge was furnished by the British and on

[Official photograph

A ROYAL FLYING CORPS BOMBING SQUADRON: MACHINES LINED UP ON AN AERODROME.

different occasions by the French Ministry of War in its official *communiqués*. The Germans made systematic attacks on hospitals and clearing stations, using both explosive and incendiary bombs. On one occasion, at least, they returned at a low altitude, and fired with their machine-guns on those engaged in rescuing wounded men from hospital sheds, in the district behind Verdun, which had been set ablaze by their incendiary bombs.

The commencement of February showed no alteration in the situation ; the same suspended animation in the ground operations, the same enterprise in the air, went on as before. Armies of the huge size employed are so absolutely dependent on their communications for the supply of the enormous amounts of ammunition consumed and the vast stores of food, clothing, etc. needed, that winter had a slowing-down influence on the progress of operations. Railways could bring the material up from the back areas of war to within a certain distance of the front, but then their place had to be taken by the small trench railways and automobile columns. Now both of these were affected by bad weather, the railway beds were injured by wet, became unstable, and were then difficult to repair ; the progress of the motor lorries was seriously hampered by the roads, which rapidly broke up under the heavy traffic and alternate frost and thaw. But while progress on the ground was thus hindered, the air was free to our aviators. They could concentrate their efforts against the railway mechanism, destroy stations, tracks and bridges, all of which were much harder to repair when the weather made work difficult. Moreover, the road traffic was peculiarly open to attack from above, convoys of waggons could be bombed, machine-gun fire brought to bear on them, killing and wounding drivers and demoralizing their organizations. As the number of aeroplanes increased and the pilots by practice became more and more expert and more and more daring, the part played by the attack from the air became greater and greater. The cavalry of the air had practically taken over the reconnoitring duties of the cavalry of the land, and in future, it seemed, the latter would act more as a support to the former, bringing up men and guns to complete and consolidate the advantages gained.

The description of the aeroplane work during January already shows how greatly its power and range had increased and proved it to be a very serious factor in all military operations, especially as it could be carried on when movement on the ground was restricted by physical conditions. The influence of the new arm had also been much increased by the intelligent part it had taken in actual infantry operations. If in the autumn of 1914 a prophet had predicted that aeroplanes would fly but a few feet above the enemy's lines and pour machine-gun fire on his trenches and infantry formations, he would have received the pro-

verbial fate of prophets—until their predictions come true.

The American troops by this time were taking part in holding the Allied trenches. On the last day of January a position garrisoned by them on the French front was put under a heavy artillery fire and raided shortly after sunrise during a heavy fog. Two men were killed and four wounded, one was carried off a prisoner. It is to be hoped that his fate was a more kindly one than that which overtook a comrade on an earlier occasion, as described in the following *communiqué*:

AMERICAN HEADQUARTERS, FRANCE. December 25.

A bulletin communicated orally to-day to all unit commanders of the American Army, to their men, and posted on the bulletin boards, describes the savage brutality in which the Germans indulged when the American trenches were raided. It was as follows:—

After a raid by Germans on one of the trenches held by American troops a lone sentry of —— Infantry was found with his throat cut from ear to ear. He had been surprised by an overwhelming force of Germans and must have been so killed after capture.

Such brutality is familiar to old soldiers who have served against savages in the Philippine campaign.

At the beginning of the year the American force in France had developed into considerable numbers. The work connected with the transport of men and material from the United States to Europe was on a most gigantic scale. At the French ports of debarkation, men and munitions of war, equipment, materials for replacements, and food supplies were being landed night and day. In the interior of France were the American Army camps full of waiting soldiers who had been coming overseas since the June before, and for whom vast amounts of equipment and material were required. This had been brought over the Atlantic in safety largely in British ships convoyed and safeguarded by the British Navy aided by that of the United States. The 3,000 miles of ocean traversed was only half the distance to which we were accustomed in sending troops and supplies either to the Cape or India, but even in the height of the South African War, when precautions had to be taken in case of hostilities by other European Powers, the danger was infinitesimal compared with that threatened in 1917 and onward by German submarines. Yet such was the perfection of the convoy arrangements that the operation was conducted practically without loss.

Several French seaports had necessarily to be employed as bases. The material to be dealt with may be considered under four heads. First there was the food and forage supply The second consisted of equipment, such as shoes, blankets and clothing. In the third classification were such articles as wagons, axes and shovels, etc. The fourth included all articles not incidental to the equipment of troops, but necessary for hutments and shelter, such as tents, sandbags with which to build breastworks and construct dug-outs, timber, ammunition and reserve small arms and ordnance. There was also all that was needed, such as steel girders and wood, for the con-

[Official Photograph

AN OBSERVATION BALLOON FALLING IN FLAMES.

[Official photograph.

A HEAVY HAUL ACROSS COUNTRY.

struction of warehouses to hold the supplies, and long piles and other material for the extra quays at seaports at which to unload the American cargo ships.

The scene along the wharves at one of the seaports during the unloading of freight for the Army by night from a score of transports formed a striking picture: Five miles of transports stretching along illuminated docks; the lights and shadows thrown upon the face of the still water of the harbour outside the line of freight carriers, while a bright moon shone overhead; the creaking of many electric-driven cranes; the familiar songs of gangs of negro dock-hands imported from the levees of the Mississippi River; the dull sounds of heavy freight from the holds of the ships dropping upon the concrete quays, and the incessant rumble of hundreds of hand trucks bumping their way into the covered warehouses.

This is the business side of war, the side we do not read much about in the newspapers. Yet it is as necessary, if not more necessary, than the landing of men, for a quarter of a million troops receiving supplies regularly from the rear are of far greater value in a campaign than a million who do not so receive them. Not only had America to find men, but she had also to maintain them in the field with food, clothing and ammunition, and to fulfil the thousand and one needs of a modern army. All or nearly all that was required had to be brought from the mother country. In addition she had to furnish supplies to her European Allies.

Between February 1 and February 5 there was a good deal of raiding on both sides at the northern end of the British line near Passchendaele, Poelcapelle, Gheluvelt and the Ypres-Staden railway—evident attempts on the German side to ascertain our strength and arrangements in this area with a view to further operations. On the 2nd especially there were many attempts. An advance against the Ypres-Staden railway was driven back and some prisoners captured, but one against Poelcapelle was more successful, taking a few of our men. A second attempt was driven off by machine-gun fire. On the 4th a strong attack was made by the Germans on a post south of Armentières which captured five of our men. But a similar attempt near Havrincourt was a failure. On our side, at the cost of very slight casualties we killed 29 men in a raid on the German position north of Poelcapelle, where we inflicted considerable damage on their dug-outs and defences and brought off three prisoners. We also carried out successful raids in the neighbourhood of the Ypres-Staden railway, where we took several prisoners and a machine-gun, also south of Fleurbaix, south of Armentières. There were also slight raid engagements in the Cambrai segment at Epéhy

and considerable artillery activity. On February 6 a German raid at Landvoorde (south-east of Ypres) secured six prisoners, but one directed against our line near Neuve Chapelle was repulsed with loss.

As the weather improved there was a little more stir in the armies on both sides, the waking up from the lethargy of winter. Both sides increased their raids in the effort to gain information as to the dispositions of the opponents' army. Behind the German front troops were being rapidly concentrated, brought up from the Russian frontier where the cessation of hostilities allowed the Germans greatly to reduce their forces. The reduction had been carried out in two ways; able-bodied men had been taken from the different units and put into those on the Western front which had fallen much below strength; besides these, complete divisions had been transferred so as to add considerably to the number of divisions. The German division at this time, and indeed for a long period before, no longer consisted of two brigades of six battalions each—*i.e.*, two infantry regiments of three battalions; but only of three regiments—*i.e.*, nine battalions under a brigadier, who thus became a sort of second-in-command to the divisional general. There is no doubt that these were considerably under their authorized war strength of 1,000 men and probably did not number more than 800–900, so that the infantry strength of a division was now only 7,200 to 8,000 men. Now it must never be forgotten that in military operations the most important factor is the foot-soldier. The artillery can prepare the way for the infantry, can support and aid it during the attack, but cannot *occupy* a position from which the enemy has been driven, still less can it turn out an infantry which is able to hang on its position, in spite of artillery fire; the final push-of-pike must be done by the foot-soldier. On the defensive it is somewhat different. Here the artillery may, and very often does, stop an infantry attack, but even then for final victory the foot-soldiers of the defence must act offensively. In the Great War it is plain how heavy was the price paid for success and how largely it was paid by the infantry. This explains why our opponents made every possible effort to strengthen their infantry numbers so that when the great offensive they meant to make, an offensive which they hoped would end the war, was begun, it should continue without interruption till the end was gained.

[*Official photograph.*

STUCK IN THE MUD.

It does not need much argument to show the need for a powerful, an overwhelming artillery, for without that infantry attacks, except where tanks could prepare the way, would have been impossible. Its stopping action was needed to cut off reinforcements from coming up to strengthen the zone attacked—*i.e.*, the barrage. Barrage was also needed to cover the advance of the attacking infantry, and further was required to cut off the flanks of the segment of the enemy's line destined for penetration and thus shield the penetrating troops from flank attack. This barrage line formed the "box-barrage," which is so constant a feature of modern offensive fighting.

The number of guns required for such an operation was very large, far more than was ever conceived to be possible or necessary until the need to overcome the defensive power of entrenched infantry was fully recognized. Moreover, the amount of ammunition consumed in operations of this character was so enormous that before a big offensive operation could be undertaken time was needed to amass it up at the front. A senior staff officer at General Headquarters is said to have remarked, with reference to the expenditure of ammunition: "The Boche is thorough. 'How much can we do with?' he asks himself. And when he has worked it out he orders just double the amount to make sure." That is what he did here. For example, the number of guns a German division had before the war was 54 field guns and 18 field howitzers; during the war it had a considerable increase, including 5·9 in. field howitzers, 6-in. guns, medium and heavy siege howitzers up to 12-in. It is not meant by this that all divisions had these actually allotted to them, but they were present on the battlefield in sufficient numbers to form a very considerable and powerful addition to the field artillery equipment. In addition there were anti-tank batteries, usually the ordinary 7·7-in. field gun on low wheels, the "close range guns"—*i.e.*, weapons of small calibre somewhat similar to our 3 pr. and 6 pr. Hotchkiss guns, and which formed an integral part of the division. There is no doubt the German plan was to use guns in such numbers that wherever a gun could be brought in there one was placed.

The German Army which was to attack the Allies was considerably larger than had been employed on the Western theatre of war during the previous year and probably numbered some 350,000 men more, a total of about 200 infantry

[*Official photograph.*

OFFICER GOING HIS ROUND AT NIGHT.

divisions or not less than a million and a half of rifles, with an exceedingly high endowment of guns.* Of these about two-thirds were in the front line and the balance in reserve. The force was a large one and gave numerical superiority to the enemy until the American Army developed sufficiently to overcome it. Flanders, Burgundy and Champagne were filling up with troops, so that the numbers here accumulated were greater than had ever been got together before. Whatever opinion might be held by others it was plain that the Germans believed the time had come to deliver a finishing stroke against the British and French, they thought the decisive theatre of war was in the west, and concentrated every man they could for it.

Experience had shown that for modern trench warfare it was absolutely necessary to give troops special training so that the field of battle might be more or less familiar to them. Troops had to be practised in what they had to do. The German training went on incessantly, but it was plain from what we learned of it that the chief aim of the instruction was to impress on their infantry the necessity for an unhesitating and rapidly carried out advance in spite of obstacles, for the passage of which portable bridges were provided. A great deal of attention was paid to musketry, and large numbers of new ranges were constructed so that many thousands of men could be put through a course of instruction at the same time. The number of machine-guns was increased. Practically the first line of attack would thus become a line of men armed with these weapons. The artillery was also put through a course of intensive training and had thoroughly impressed on it the necessity for closely supporting the infantry. For at least nine months before the attack took place it had been the custom to have a certain proportion of guns and light mine-throwers definitely attached to the infantry, so that in an attack they should form an integral part of it. The number of guns was largely increased. Gas was to be liberally employed, chiefly in the form of "mustard" gas shells. Great labour was expended on the roads of approach, the broad-gauge railways were duplicated in many places, as also the narrow-gauge lines leading from them to the trenches; mono-rails were constructed to facilitate ammunition supply. The Germans had then made up their minds that the spring of 1918 should witness their victory over the Allies in France.

When the armies of two different Powers are fighting together for a common cause it is plain that the point of juncture of the two forces will

[Official photograph

AIR RAID ON TREVES BY THE R.F.C. ON FEBRUARY 19, 1918.

The black circles show bomb bursts on railway sidings and wharf.

always be a weak point. Each commander has his own ideas, each is apt to think when such a point is struck at and one of them is forced back that the one affected should repair his own damage. Each has his own line of communications which he is anxious always to protect; if the one meet with disaster, the other will be more apt to think of his own danger, than of succouring his ally. The Germans felt that if they could penetrate at the point of meeting of the British and French armies they would be able to wheel to their right and crush the British. If the British were forced to retreat towards the north, a portion of the German forces might then advance through the rupture thus made on Amiens. This point captured, the connexion between the British and French armies would be completely ruptured, and the former would lose their best coastal bases and be dependent on the northern French ports, which would have been very insufficient for the purpose. It is certain, too, that they had also in their minds, in the second place, the idea of an

* The total strength of the German army—*i.e.*, gunners, cavalry and auxiliary services and troops on the communications would at this estimate be in round numbers about 2,500,000 men. Probably there was some further addition to the strength as the attack went on, men recalled from Russia, Rumania, and some few from Italy.

advance on Paris and further, in the event of the British being driven some way up north, an advance from Ypres on Hazebrouck. Moreover, as, in these days of aerial reconnaissance combined with the excellent intelligence department that every modern army possesses (in older days it was called by the plainer name of spy-system), the formation and disposition of an enemy's forces are always partly known, the Germans were perfectly aware that the Fifth Army which held the right of the British line was weak for the task imposed on it, and they proposed to attack it with overwhelming numbers. There was nothing new in this plan; to concentrate superior force against the point to be attacked had always been the prelude to success in war. In the struggle on the France-Flanders front many successful attacks had been made, but where they failed was that none had been carried through so far as to gain any very striking results. Indeed, since the victory of the Marne, when the Germans had been driven back to the Aisne, there had been only a gradual small advance by the Allies which had freed a certain amount of territory but had brought them no nearer to final victory. The plain reason for this was that on no single occasion were there sufficient troops available to push in after the first success and clinch it. Moreover, there had been a stereotyped form about all these operations which did not lead to any great result. There was always a certain amount of artillery fire interchanged between the two attacking parties—this was of daily occurrence. Then it would become heavier at certain parts of the line, not limited to where the actual attack was to take place, but extending far beyond it. Then over the actual segment destined for destruction, and again a little more, the artillery fire was raised to the highest pitch of intensity. This would last for a few hours, and then the infantry went forward covered by the artillery barrage. Now it is obvious that the enemy, being warned by this long-continued bombardment, could take defensive measures. This was well seen in our fighting for the Passchendaele Ridge, in the bringing to a halt of the German attack on Verdun, and in many other instances There had been some examples, on a small scale, of the advantage to be gained by surprise; indeed, every successful raid was one. But on a large scale the first was the attack on Cambrai of November 20, 1917. It was entirely due to the tanks which bore down the wire and cleared the way for the infantry to assault. Here again, however, the want of numbers forced us to give up ground we had so hardly won.

The Germans determined to attack without prolonged artillery preparation, and the problem was how to carry the assault to success and carry it on after the first success to still greater gains. They could not adopt the tank method on any large scale, because they had not got tanks in sufficient numbers, and, with the exception of a few captured from the British, those they had were extremely clumsy contrivances. They relied on a short but extremely heavy bombardment, and trusted to the infantry, combined with the light guns and light mine-throwers, to make holes through the wire through which they would be able to penetrate.

Now, in their operations against the Russians in the campaign which gave them Riga they had been able to carry out a manœuvre which had won them a great success. They had pierced the Russian line which rested its right on the coast, then cut the Russian line of communications—*i.e.*, the Russian road from Riga to Wende—then, wheeling to the left, jammed up the cut-off part and captured the town and a large mass of prisoners. The intention in the spring of 1918 was much the same, to pierce the Allied line about the end of the right wing of the British Fifth Army, seize Amiens, thus cutting the most important railways which served as communications for the British, then wheel to the right, while the possession of Amiens covered the movement, and crush the British Army in the northern part of France, attacking it in front and flank. When the latest representatives of the original "contemptible" army were dealt with the French could be forced back and Paris taken. It was a pretty little scheme. How could it fail? The Crown Prince told his men they would be back in Germany by Easter. The first part of the plan was indeed successful. The Fifth Army was badly beaten and driven back, Amiens nearly taken, but—then came the *riposte* by Foch and the flood of invasion was stopped.

So far for the strategical part of the German plan; the tactical part had also been carefully thought out. At the end of January Instructions had been issued by the Great Headquarters to the army laying down the lines on which

[French official photograph.

A CAPTURED GERMAN ANTI-TANK GUN.

the attack was to be conducted. The first point was that the divisions were not to expect relief after a single day's fighting; if properly led they ought to be able to continue the attack for some days and thus be able to make a considerable move forward. The second was that, even in operations of a secondary character, the attack should push forward at least five miles so as to reach and take the enemy's artillery positions. To attain this the supreme leaders must not be satisfied with merely starting the engagements, but must maintain their leadership throughout the whole of the fighting. It was essential that all leaders should direct their attention, the whole time, to the employment of the troops in accordance with

[Official photograph.

COMING BACK FROM THE TRENCHES.

the varying phases of the combat. The German attacks must be conducted very differently from those of the British up to the time of the issue of these Instructions. The British depended on their artillery barrage, executed, it is true, with skill, but too rigid. The barrage covered and carried on with it the infantry, which thus had no initiative of its own. Its junior and senior leaders alike could not impress their influence on their men. The result of this want of elasticity was that in the British offensive movements initial tactical successes, often in themselves considerable, were not properly followed up, and this too formal manner of conducting the operation eventually led to defeat. Exactly the reverse would have been the proper tactical method. From the moment the barrage was lifted the battalion and company leaders should have had complete liberty of action. When following up a success, therefore, wherever a unit found in front of it a weak spot or a break in the British line it was to indicate it by sending up a rocket and the neighbouring units were at once to converge on it and unite their strength so as to force an entry.

The chief duties of the higher commanders —*i.e.*, those at head of divisions, or groups of divisions or armies—were to watch the course of events, see that troops were not uselessly engaged and employ their reserves judiciously. They were not to be used merely against the points where the enemy was resisting stoutly or against his strong points—*i.e.*, not to reinforce the places where the attack was held up. The proper course was to direct them where progress was being made, where the enemy was yielding, so as to aid the movement and thus render it possible to attack the centres of strong resistance in flank. Thus the reserves could aid the onward movement. For this purpose they must always be at hand, and in order that they might be appropriately employed, and the principle applied equally to all bodies of men from the regiments to the army corps and armies, the leaders and their staffs must be well up to the front so that they could take instant advantage of a success or be ready to stop a reverse.

The third principle laid down was that the success of any penetration depended on its being quickly supported by the artillery, whether heavy or light, and by the light mine-throwers.* As a practical fact, as we shall see later on, the German artillery did largely accompany the infantry in its attack.

The fourth principle dealt with the question of the artillery barrages. These were, of course, to prepare the way for the further advance of the infantry after it had penetrated into the

* These formed an integral part of every German battalion. They had by this time been considerably modified and could be carried by four men or even only two at a pinch, and were easily drawn, being mounted on two light wheels. Moreover, they were capable of low trajectory fire as well as high angle. In fact, they had become light field guns firing a shell of about 10 lbs. It is true that owing to their low muzzle-velocity the shells had little penetration; but that was not a grave defect in a weapon which was intended chiefly for use against troops—*i.e.*, for man-killing or light destructive purposes, such as destruction of wire entanglement.

enemy's first line, but they were to depend on the movements of the infantry; the latter was not to be constrained to wait on the artillery to regulate its progression.

The theatre of operation at the opening of the German offensive was the ancient Province of Picardy and a small part of the Province known as the Isle de France. It formed a fairly open rolling plateau with few woods, and on the whole was favourable to open-battle fighting. It was confined between the River Sensée on the north and the Oise on the south. The latter between La Fère and Noyon and the Somme from St. Quentin and St. Simon formed almost parallel lines, and the space between them was well suited for an offensive movement, the Croizat Canal forming the only obstacle of any real importance. It ran from St. Simon to La Fère. Extending farther north the Cambrai–St. Quentin section was favourable to the Germans' attack. The railways they held fitted the manœuvre, and the rapid deployment of vast forces was feasible, while the country into which the Germans would penetrate offered no natural obstacle of importance to their continued advance. The district showed little of the devastation of war, the villages and woods were largely intact, and the country was of an open nature as far as the wide, marshy area of the winding River Oise. Across this was visible to the south-east the black mass of the large Forest of St. Gobain and the tops of the buildings of La Fère, where it lay in a hollow, partly hidden by trees.

There was a general feeling that the long-threatened offensive would soon begin, but the attitude throughout both the British and French armies was one of confidence. We had, as we know now, taken over part of the French line, beyond St. Quentin down to the Oise; our Fifth Army relieving the French Third, and the change from the mud of their former position in Flanders to the greatly improved conditions of their new quarters had greatly impressed our men. The quiet and beauty of the country formed a great contrast to what they had been accustomed to. It was in a great measure to be accounted for by the greater distance apart of the opposing lines. For No Man's Land was often 1,000 yards wide, especially near the flats and marshes below our position where the breaking of a canal bank had formed a marsh. Beyond it the ground rose to a ridge known as the Massif of St. Gobain, the northern end of which, sloping down again, was known as the Tail of

[Official photograph.

A SENTRY ON DUTY IN THE FRONT LINE.

Monceau. This height dominated the surrounding country and gave a wide field of observation to the enemy over our lines and roads for miles round. It had been strongly fortified by the Germans and was destined later to be the scene of many severe engagements.

To return to the incidents immediately preceding the German offensive, the weather turned bad again after February 7, with wild westerly winds, but mild, for the next few days. The increasing number of the German guns was indicated by the additional artillery fire. Cambrai and its neighbourhood continued to be attractive to the enemy, and the same may be said of the Ypres segment of the line, but the fire was at no time very intense. The same was true of the Belgian end of the front.

On the evening of the 10th a successful raid was made by the Australians near Warneton, south-east of Messines, and other points received some attention. The reason for this activity on our part was the increase in traffic along the Houthem-Comines-Wervicq railway. It had been ascertained from a prisoner that his division had been undergoing intensive training to take part in an offensive action and that it had now been brought back. This showed that at any rate some of the German troops were undergoing special preparation for the threatened attack on our line, and it was desirable to find out what was being done.

The Australian attack was made on a strongly-defended position immediately north of the River Lys. The plan included feints on the left, which kept the enemy in doubt as to the exact front of the raid. The German wire entanglements were cut by trench mortars and artillery. At 10 o'clock a heavy barrage was laid down along a considerable length of front, combined with heavy counter-battery fire against enemy guns, and a bombardment of enemy headquarters and dug-outs behind Warneton. The attacking force entered the enemy line over a front of 400 yards, and encountered a considerable garrison, which they overcame by bomb and bayonet fighting. Leaving parties to destroy the dug-outs and other works the assault was then pushed forward against the second line, which was attacked with the bayonet. Trenches behind the second line were also entered, and many dug-outs destroyed. After dealing destruction in every possible direction for half-an-hour the raiders withdrew, having killed in infantry fighting alone 90 Germans; a further large number were killed and wounded by artillery fire and Lewis-gun fire during the withdrawal. Our total casualties were only one-sixth of the known enemy losses. The damage we inflicted was great.

A successful raid south-east of Hargicourt was carried out by Canadian troops on the evening of the 12th, prisoners and two machine-guns were brought back, many Germans were killed in fighting above ground, and four trench mortars were destroyed. Seventeen dug-outs in the enemy's front line and others in his support line, whose occupants refused to come out when summoned, were bombed by us. The casualties incurred were slight, and were all brought in. Some fighting also took place at dawn of January 13 north-west of Passchendaele, where a hostile party attacked and temporarily occupied two of our posts. The enemy was subsequently ejected by our counter-attack.

Small actions such as these do not perhaps make striking episodes in the history of the war, but they were often of great value to the higher leaders, affording evidence of the enemy's *moral*, and giving data from which his dispositions and even his intentions could be deduced. They were operations requiring high military qualifications in the leaders to guard against failure, and if successful they would at any rate inflict loss and destruction on the enemy's men and work. In addition, these minor operations relieved the eternal watching and served to hearten the men, while they tended to keep the Germans on the alert and induce that constant tension of mind which arose from the fact that they never knew when attack was coming.

On February 13 our French Allies made a successful minor attack in the centre of the German defences on the Champagne front between Tahure and the hill of Mesnil, along a front of a mile, and penetrated to a depth of over 1,200 yards. Some American batteries took part in the artillery preparation, and the French Command spoke in cordial terms of the valuable assistance they had rendered by their accurate fire. The object of the enterprise was to smash a German salient which was troublesome to the French lines near the position called the Courtine. The attack was prepared with great thoroughness. A six-hours bombardment of the German defences so pounded them to pieces that within an hour the infantry was able to reach all its objectives, although a fine rain turned the chalky

soil into slime and also put the aviators out of action. There was in fact but very little resistance; the bulk of the garrison had apparently retired before the attack materialized, and only 160 prisoners were taken. It was a very useful gain to the French, removing a constant source of annoyance.

The confronting armies had been continually conducting these raids of inquiry into each other's lines with a view to finding out their opponents' dispositions. For, in addition to those mentioned above, raids had also been prosecuted with unusual vigour against both the British and the French lines, over a wide area on the British front from Ypres to south of St. Quentin, practically the whole length of the line, and also against the French east of this point.

The following table shows the principal raids carried out or attempted by the Germans during a period of four weeks :—

Armentières sector ...	3	Lens sector	5
Arras sector	4	Passchendaele sector	3
Cambrai sector ...	5	St. Quentin sector ...	3
La Bassée sector ...	3		

The British raids include—

Armentières sector ...	3	Loos sector	1
Epéhy sector	2	Quéant sector ...	1
Hargicourt sector ...	2	St. Quentin sector ...	1
Lens sector	3	Ypres sector... ...	1

The following table shows the principal German raids against the French front :—

Verdun sector ...	20	Argonne sector ...	2
Aisne sector	7	S.E. of St. Quentin ...	2
Alsace sector	6	Woevre	2
Lorraine sector ...	3	Vosges	2
Champagne sector ...	3	Coast sector	2

The principal French raids were :—

Champagne	11	Argonne	3
Aisne	8	Vosges	1
Alsace	5	Lorraine	1
Verdun sector ...	4	Woevre	1

[Official photograph.

FRENCH DUG-OUTS NEAR ST. QUENTIN TAKEN OVER BY BRITISH TROOPS.

In addition there had of course been, whenever the weather permitted, the usual activity in the air.

On the night of February 15, Lancashire troops made a raid in the neighbourhood of the Ypres-Staden railway. This was always an important point to keep under observation as an advance on Roulers was always desirable. It will be remembered that in October, 1914, the Allies had intended an offensive in this direction but had not sufficient troops available for the purpose. The intention then had been to march on Bruges and thus threaten the Germans on the Belgian coast. The next day another "feeler" was made by the Germans east of Epéhy, but was driven back by rifle and machine-gun fire.

[Official photograph.

RETURNING FOR A REST AFTER SEVERAL DAYS' FIGHTING IN FLANDERS.

During the night February 19-20 a raid was made on the German positions in the southern portion of the Houthulst Forest—*i.e.*, the same region. The attack was made on a wide front and was very successful. Our casualties were slight, but a large number of the enemy were killed and we brought back 27 prisoners. At the same time there was a considerable patrol activity and some increase of artillery fire about St. Quentin, which was continued during the next day. The night of the 21st-22nd saw a raid on a large scale against two of our outposts in the neighbourhood of the Ypres-Staden railway, in which the enemy succeeded in capturing a few of our men.

The Germans seemed towards the beginning of March to make more and more use of poison shells filled with yellow or mustard gas compound. As a correspondent wrote :—

> The poison clouds of the earlier days of war have been quite superseded by the gas shell and the enemy is using an increasing quantity of these, with the object of stupefying our gunners and spreading a zone of poison vapours over our lines. It is an invisible menace, which puts all our men on the alert for any faint smell borne down the breeze, or for the slightest whiff of fumes causing a smart to the eyes and skin. Fortunately our men are provided with a complete protection in the shape of their masks. They work, sleep and eat with these close at hand, and are so practised in donning them that they can put them on in a few seconds. The enemy's gas-shells are utterly harmless against our masked men, but owing to the want of india-rubber his masks are no longer thoroughly effective against our gases. But still, it is not pleasant to find an area which is drenched with gas which, as in the case of the latest German poison, is very insidious and very lasting in its effects. It is known that the Germans themselves have suffered from its effects from prematures, dump explosions and blowing back.

A movement was at this time set on foot by the International Red Cross Society of Geneva with a view to inducing all the belligerent nations to abandon the use of poison gas in war. Reports showed that the movement was strongly supported by German pacifists resident in Switzerland.

Poison gas was first made use of as a weapon in warfare by the Germans in the spring of 1915. Its use is an offence against the Hague Convention, which forbade the employment of poison and denied the unlimited right of belligerents as to the choice of means of injuring the enemy.* The commission of this crime had been long premeditated, since the manufacture and preparation of the gas and its appliances

* See Annex to the Convention Regulations respecting the laws and customs of war on land. Section II. Of Hostilities.

and the training of the *personnel* could only have been the fruit of many months' work.

With as little delay as possible means of protection were devised by the Allies and issued to the troops. But the measures adopted did not stop there. When the Germans introduced this new and deadly means of warfare they put into the hands of their enemies a weapon which could be used against themselves.

As originally used the gas in clouds was dependent on the direction of the wind. A study of the meteorological records of North-Eastern France shows that for every day on which the wind blows from the east or north-east—the directions necessary to allow the Germans to use gas—there are at least six days on which it blows from the west or south-west, the quarter favourable to the Allies. When the gas cloud was found to be a double-edged weapon liable to be blown back on those who had emitted it, gas-shells were introduced. But the Allies had also adopted these weapons, and as the Germans were beginning to find they were getting the worst of it, it was quite in accordance with their practice to seek its abandonment. Meanwhile they thought they had so powerful an aid in the mustard gas that they went on using it.

March 1 came, but with it no attack, the reason doubtless being that the Germans had not brought up sufficient infantry and guns. The former could only march at night or their movements would be detected when near the front. The same rule applied to the guns, and in their case it was necessary to bring them into carefully hidden battery positions, and the fresh guns had to register the ranges, drawing as little attention as possible to their stations. No doubt only a part of the batteries in a group did actual firing for this purpose; the others got the ranges from them.

During the whole of the first three weeks of March the usual raiding and artillery fire went on and the airmen were particularly active. Among the raids which may be noticed were the following: March 5 saw a very successful raid by our men near Warneton in which they penetrated to the enemy's second line, did considerable damage and beat off two counter-attacks. On March 7 there was considerable artillery fire on the Ypres front, and shortly before dawn on the 8th, after a heavy gun fire, the Germans delivered a strong attack south of Houthulst Forest on a front of about a mile. Over the greater part the assault broke down under our

[*Official photograph.*

PREPARATIONS FOR A RAID: FIXING SCALING LADDERS IN A DEEP TRENCH.

[Belgian official photograph.

BELGIAN CAVALRY RECEIVING ORDERS.

fire, but at the left of our line, where it was pressed with great vigour and accompanied by flame-throwers, our outposts were forced back over a length of some 500 yards. But a counter-attack later in the morning, delivered by the Yorkshire Light Infantry, was entirely successful. The Germans were driven not only out of our lines but 300 yards beyond our former front line with heavy loss, and our position was completely re-established. Our casualties in the whole operation were light.

The Belgians on the same day thrust the enemy from a point in their trenches near Kippe, which he had occupied the previous day. Our Allies also made two successful raids near Nieuport, capturing altogether 25 men. Two days before they had a severe encounter with an attack in force by the Germans at Reigershuit, not far from Parvyse. It was a serious attempt to capture the Belgian advanced positions there. After a very heavy bombardment storm troops rushed a series of several works forming a bridge head. But reinforcements came up in the shape of the Chasseurs à Cheval, a crack regiment of the Belgian cavalry, who, passing over the inundation there by a small foot-bridge in single file, formed and fought their way steadily forward, aided by other troops, till the whole of the lost position was retaken. The German losses were very heavy, numbering 116 in prisoners alone, besides many killed and wounded. It was a gallant exploit, which well deserved the praise King Albert accorded to it.

It will be understood that all this time the line held by the French had undergone much the same experience from La Fère to Woeuvre. The right flank of positions from Nancy downwards had never been subjected to any severe assaults since 1914. Here each side watched the other, and there had been but few and unimportant collisions. But on the northern front there was a resumption of the fighting. On February 28 the Germans opened a bombardment of the French positions in front of Reims over a front of about 10 miles from Loivre, north-west of the town, to Sillery (of champagne fame), about the same distance from it. The next day (Friday) they attacked the two extremities, and at another point to the east of Reims two other attacks were delivered against the Moronvillers massif. But by Saturday morning all three had been defeated with loss. On the 4th the French retaliated with an extensive raid on the east of the Meuse against the German positions

there. At the Calonne trench they penetrated on a front of 1,300 yards to a depth of nearly 700 yards at certain points, and brought back over 150 prisoners. On March 17 there was another successful raid into the German lines near Cheppy on the left bank of the Meuse over a front of about half a mile. After destroying many dug-outs and other works with only slight loss, the French returned with 80 prisoners and seven machine-guns to their own lines.

The aviators of both the British and French Armies had been very active, even when the weather was not propitious; thus on March 1, 2, and 3 many bombs were dropped on important objects, although the weather was bad. Ostend air-sheds were played on from heights of 150 to 300 feet, and good effects were obtained; in addition an anti-aircraft battery was hit. Two German machines were shot down. The 4th and 5th were too bad for air work, but on the evening of the latter day when the weather improved three German aviators were brought down, and after dark Ingelmunster station and a hostile aerodrome were bombed. Altogether during the first 10 days of March our airmen crashed down two German machines in our own lines, 37 behind the German lines, besides forcing down 40 machines out of control. On one day 18 aeroplanes were destroyed without loss, and the price we had to pay for the whole 79 was but 15. The figures served to show that for every bomb dropped by the Germans we had dropped 10. Notwithstanding the fact that for the first three days the weather conditions were very bad, with frequent snow squalls, the period gave the best results ever obtained for reconnoitring, photographing, fighting and bombing. Trèves, Ostend, the neighbourhood of Metz and St. Quentin, many aerodromes and other important points were bombed, such as Menin, Busigny, Guise east of St. Quentin, Roulers, Ledeghem, Cambrai and Solesmes. A specially noteworthy affair was the daylight raid on Mainz on the 9th, when over a ton of bombs was dropped on barracks, railway sidings, and on a factory. All our machines returned unharmed. On the 10th a similar raid was made in broad daylight on the Daimler motor works at Stuttgart. A ton and a quarter of bombs were dropped. Several hits were made on the railway station, a train was also struck and set on fire. A feeble attempt at a counter-attack was made by some of the enemy's machines; but when our men

[Australian official photograph.

RESCUE STATION IN AN AUSTRALIAN TUNNELLING SYSTEM.

Canaries are kept for the detection of poison gas.

[Official photograph.

ROYAL FIELD ARTILLERY GOING FORWARD.

turned on them they made off. All our machines returned safely except one, which had engine trouble and was obliged to come down just before reaching home.

The French were equally successful. Thus on the 11th and 12th they brought down eight German aeroplanes (two by anti-aircraft guns), and dropped 10 tons of bombs on various points.

March 12 was a good day for us, although visibility was poor. Seventeen enemy machines were accounted for and over 500 bombs dropped on important points. The next day another daylight raid into Germany took place. The objective on this occasion was Coblenz. Over a ton of bombs was dropped and bursts were observed on many of the buildings aimed at. Two fires were started and a large explosion caused in a building at the south-west corner of the town, and again all our machines returned unhurt. It is plain that the Allies were getting the upper hand in the air. On the 13th Freiburg, in Baden, was raided and bombs dropped on the railway station and round the power stations. After our aviators had dropped their bombs they were attacked by a large number of hostile machines, but all of them were obliged to withdraw. Three of our machines did not return.

On March 15 a good deal of useful bombing was done near St. Quentin. On the 16th and 17th two more incursions into Germany were made. On the first date Zweibrücken railway station, barracks and munition factories were bombed successfully. Our formation was attacked by the Germans, but without success. The aerial fighting during the morning was intense. Twenty-three of the hostile machines were accounted for and seven of ours were lost. On March 17 another daylight raid dealt with Kaiserslautern, with good results. Direct hits were observed on the railway station and a large fire caused, and barracks were also damaged. None of our machines was injured, the German aviators who attacked being driven off. The French, on the 15th and 16th, brought down 17 machines, and on the 15th dropped seven tons of bombs on various points. On the 17th they destroyed three aeroplanes, while six others were seriously damaged, and on the 16th and 17th 11 tons of bombs were dropped on important military points. The week ending on the 17th was a brilliant record for the Royal Flying Corps. In that period they destroyed 89 and drove down 42 German machines out of control, with a loss of only 23 British aeroplanes. Apart from aerial activity, the front was generally quiet, the artillery

being less active and the raids few and small. It was the calm before the storm which was about to burst on the Allied lines.

By this time there was a fairly strong consensus of opinion that the enemy was preparing to attack us heavily between Arras and St. Quentin. It was believed by us that he might do so at any moment after the middle of the month; it seems pretty certain he intended to do so at the beginning of March, but eventually the attack was postponed till March 21, because the Germans had not been able to bring up all the troops they required till that date. The method of the proposed attack was also known. No lengthened preliminary bombardment was to be employed, revealing the batteries which he had brought up under cover of darkness. There would be a short intensive battering combined with the use of gas shells and of a number of tanks. He would rely upon surprise and the rapidity and power of his movement.

Meanwhile every effort was made to raise the ardour of the German troops. They were told that their tanks were better than the British, while the new anti-tank rifles and machine guns would make ours useless; that they had a new gas of a most frightful character;

EXAMINING A GERMAN ANTI-TANK RIFLE. *Canadian War Records.*
This rifle had a calibre of about ·75 in. and fired an armour piercing bullet

the flat trajectory light mine-throwers, etc., were all superior to anything we had—all these, combined with the new tactics they were to employ and the special training of their troops, would make their onrush irresistible. The tactics employed at Riga and on the Isonzo were to be repeated and could not possibly fail. On our side, also, there was a calm confidence. Our men believed they would beat off the attack, and that even if the enemy did gain some temporary success the cost to him would be frightful; but, on the whole, it was thought that our defences were strong enough to hold up any attack and that we should maintain our ground.

The Germans believed they were about to deliver a knock-out blow. Just before the battle began, the Kaiser sent the following reply to a message from the Pomeranian Provincial Council: "I have a strong hope that the Field-Marshal, with his field-greys, will soon win for us a complete victory on the Western front, and that the spirit of the unselfish fulfilment of duty which has inspired our army will enable those at home to make the necessary sacrifices and efforts."

[Official photograph.

A WRECKED GOTHA.

CHAPTER CCLX.

VICTORIA CROSSES OF THE WAR. (VI.)

FOUR YEARS' AWARDS—JUNE CROSSES—"I WILL KEEP MY GUNS HERE"—A FINE YOUNG SUBALTERN—AN ENGINEER'S COOLNESS—MACHINE-GUNNER AND STRETCHER-BEARER—THE INSPIRATION OF THE "ÇA IRA"—FIGHTING AGAINST GREAT ODDS—A GURKHA'S WORK—PRIVATE CRUICKSHANK—RIFLE BRIGADE HEROES—"RECKLESSLY BRAVE"—THE LANCASHIRE FUSILIERS AGAIN—THE AFFAIR OF "THE KEEP"—FEATS OF DARING—A FINE MACHINE-GUNNER—AN UNCOMMON SITUATION—A CROSS FOR A CHAPLAIN—A COLONEL'S DEEDS—THE AUSTRALIANS—THE ZEEBRUGGE AND OSTEND AFFAIR—BRIGADIER-GENERAL GROGAN—VALOROUS WORK ON "A STRAY HORSE"—ESCAPE FROM A "DEATH-TRAP"—BISHOP AND BALL—THE V.C. RIBAND—Q-BOATS AND U-BOATS—FOUR MORE AUSTRALIANS—AN R.N.R. AWARD—"KEEP IT UP, BOYS!"—"WITH A HEAVY STICK"—NINE OVERSEA AWARDS TO "RUSHERS."

THE total number of Victoria Crosses awarded from the beginning of hostilities to the end of September, 1918, was 494, of which 451 went to the Army and Royal Air Force and 43 were distributed as follows: Royal Navy, 22; Royal Naval Reserve, 9; Royal Naval Volunteer Reserve, 5; Royal Naval Air Service, 1; Royal Naval Division, 2; Royal Marine Artillery, 2; Royal Marine Light Infantry, 2. In addition two bars were given. In the House of Commons on June 19, 1918, Mr. Macpherson stated that up to that time the total number of Victoria Crosses awarded to the Navy and Army during the war was 446 and two bars. The numbers for the Distinguished Service Order were 7,347; first bar, 296; second bar, 9; third bar, 1. There were no public means of knowing when and where the later recipients had won the Cross, owing to the official method of withholding dates and places and even the identity of the "enemy." Reference to this regrettable absence of clearness has been made in earlier chapters; a further illustration may be added. On the occasion of the King's 53rd birthday the *London Gazette* Supplement published long and important lists of Army Honours. To the list for France and Flanders there was added a note saying: "During the period covered by this *Gazette* His Majesty the King has approved of the award of 72 Victoria Crosses," but there was nothing to show what the extent of the "period" was. During the same "period" many other rewards were given for the operations in France and Flanders, including D.S.O., 297; D.S.O. Bars, 68; M.C., 2,961; M.C. Bars, 313; Military Medals, 16,500. The rewards for services in Egypt included 8 Victoria Crosses, 48 D.S.O., 8 D.S.O. Bars; M.C., 387; M.C. Bars, 16; D.C.M., 194; D.C.M. Bars, 5; M.M., 1,179; M.M. Bars, 9; Indian D.S.M., 45; Indian D.S.M. Bars, 2; Indian M.S.M., 95. These figures again showed the extremely small number of Victoria Crosses that had been conferred during the war. In the more recent months the amazing development of the Air

Service had afforded opportunities for gaining a number of Crosses, and the memorable attack on Zebrugge and Ostend had enabled the Navy to extend the necessarily limited list of its members to whom the distinction had been given.

No fewer than 21 Crosses were gazetted

LIEUT. (Acting Captain) E. S. DOUGALL, Late R.F.A. (S.R.).

during June, 1918—5 on the 4th, 3 on the 7th, 2 on the 21st, and 11 on the 28th. The shorter lists are as follows :—

June 4.—Acting Capt. Eric Stuart Dougall, M.C., late R.F.A. (S.R.); Temp. Sec. Lieut. Cecil Leonard Knox, R.E.; Temp. Sec. Lieut. Ernest Frederick Beal, late Yorkshire Regiment; Acting Lce.-Cpl. Arthur Henry Cross, M.G. Corps (Camberwell); and Pte. Thomas Young, Durham Light Infantry (High Spen, co. Durham).

June 7.—Lieut. Percy Valentine Storkey, Australian Imperial Force; Temp. Sec. Lieut. Alfred Cecil Herring, Northamptonshire Regiment; and Sgt. Albert Mountain, West Yorkshire Regiment (Leeds).

June 21.—Pte. Robert Edward Cruickhank, London Regiment (Harringay); and Rfmn. Karanbahadur Rana, Gurkha Rifles.

Since the very earliest days of the war, when the heavy gunners of the Old Army wrought havoc in the advancing hosts of Germany and did so much to check their advance, the British artillery had possessed the perfect trust of the other arms, and the infantry in particular looked upon all gunners with something like affection. Time after time the artillerymen had stood to their guns against overwhelming odds; many had fallen in the unequal fights, yet many had lived, after prolonged and what seemed hopeless contests, to save their batteries, though to do this at times involved the hardest of man-handling. To these stern combatants, who stubbornly refused to recognize that in theory, at any rate, they must be numbered with the vanquished, there was added Capt. Eric Stuart Dougall, who fought in circumstances reminiscent of the case of Acting Sgt. Raynes, to whom the Cross was awarded for his bravery and devotion to duty in October, 1915. The sergeant's battery was being heavily bombarded by "armour-piercing and gas-shells"; at the close of the fourth year of war

TEMP. SEC.-LIEUT. ERNEST F. BEAL, Late Yorkshire Regiment.

Dougall, when in command of his battery, maintained his guns in action throughout a heavy concentration of "gas and high-explosive shell." Dougall had already won the Military Cross and had shown the grit and endurance which now, throughout a "trying day," stood him in such good stead. The strain upon him began in the early morning and it continued for more than 12 hours. The captain

found that he could not clear a crest owing to the withdrawal of our line, and so he ran his guns on to the top of the ridge, to fire over open sights. Our infantry had by this time been pressed back in line with the guns, whereupon Dougall immediately assumed command of the situation, rallied and organized the infantry, supplied them with Lewis guns, and armed as many gunners as he could spare with rifles. With these the captain formed a line in front of his battery, which during this period was harassing the advancing enemy with a rapid fire. Dougall was exposed to both rifle and machine-gun fire, yet he fearlessly walked about "as though on parade," giving orders calmly and "encouraging everybody." "So long as you stick to your trenches I will keep my guns here," he assured the infantry; and inspired with that assurance from a man who had completely proved his heroism the men maintained the line throughout the day, and by doing so delayed the enemy's advance for more than 12 hours. All the ammunition had been expended when evening came, and the battery was ordered to withdraw. For exhausted men, under intense machine-gun fire, and over a section of shattered earth, this seemed an order that it was impossible to obey; yet by man-handling the guns were withdrawn "over a distance of about 800 yards of shell-cratered country.' The captain had held his ground, had put heart of grace into his gallant men, and had saved his guns when salvation was a slender possibility, and the result of it all was that he had averted a serious breach in our line. He had lived to win great honour; four days later he was killed whilst directing the fire of his battery.

Second-Lieutenant Beal also was killed after he had shown the high courage and determined leadership which won for him the Cross. His company had been detailed to occupy a section of trench; but when the company was established it was found that a gap of about 400 yards existed between the left flank and the neighbouring unit. This gap was strongly held by the enemy, and it was vitally important that it should be cleared. No troops, however, were available for this purpose, but Beal rose to the desperate occasion, and organizing a handful of men—less than a dozen—he led them against the foe. On reaching a hostile machine-gun he instantly sprang forward, killed the team with his revolver, and captured the weapon. Having done this he did not hesitate to continue along the trench. In that perilous journey he encountered another machine-gun, and this he promptly dealt with in the same way as the other. In all this young officer captured four enemy guns and inflicted severe casualties. That was a fine record, and he might well have rested content with it; but he was not satisfied, and when, later in the evening, a wounded man had been left in the open under heavy fire, Beal, regardless of danger, walked up close to an enemy machine-gun and brought in the wounded man on his back. It was the subaltern's fate to be killed by a shell on the following morning.

[Official photograph.

TEMP. SEC.-LIEUT. C. L. KNOX, R.E., Receiving the Victoria Cross.

The Engineers, like the Artillery, had repeatedly won admiration from the infantry because of their masterful resourcefulness in times of stress. The first of their Crosses in the war were won by the gallant Captain Wright at Mons, and by Lance-Corporal Jarvis, at

SOUTHWARK'S RECEPTION OF ACTING LANCE-CORPORAL A. H. CROSS, Machine Gun Corps.
The scene outside the Corporal's home.

Jemappes, on the same day—August 23, 1914—both in connexion with the demolition of a bridge, and now, for desperate bridge work, the Cross was awarded to Second-Lieutenant Cecil Leonard Knox. No fewer than twelve bridges were entrusted to Knox for demolition, yet he successfully destroyed them all. But there was one case in which things did not work out according to programme. There was a steel girder bridge, the destruction of which Knox personally supervised, where the time-fuse failed to act. Knox was "a practical civil engineer," and fully understood the gravity of the risk he immediately undertook; but unhesitatingly he ran to the bridge, under heavy rifle and machine-gun fire, and when the enemy were actually on the bridge he tore away the time-fuse and lit the instantaneous fuse. To do this Knox had to get under the bridge; but his devotion to duty and cool determination enabled him to crown his truly desperate enterprise with splendid success.

Private Arthur Henry Cross, the machine-gunner, showed his bravery and initiative throughout four days of operations, and the official record stated that it was impossible to speak too highly of his extreme gallantry, initiative and dash. Cross volunteered to make a reconnaissance of the position of two machine-guns which the enemy had captured. Advancing single-handed to the enemy trench he, with his revolver, forced seven opponents to surrender. By way of completing his task the corporal compelled his captives to carry the guns, with their tripods and ammunition, to our lines. Then he handed over his prisoners, and, collecting teams for his guns, brought the weapons into action with "exceptional dash and skill, annihilating a very heavy attack by the enemy."

Private Thomas Young, as a stretcher-bearer, worked unceasingly for five days, evacuating wounded from seemingly impossible places. On nine different occasions he went out in front of our line in broad daylight. Heavy fire was directed upon him from rifles and machine-guns, with the added danger of shell fire; yet he managed to bring back wounded to safety. Under this "harassing fire" of three sorts Young dressed those who were too badly wounded to be moved before receiving such attention, and unaided he carried them to our lines. In this manner the

stretcher-bearer rescued and saved no fewer than nine lives.

Remarkably successful fighting against great odds characterized the acts for which the three Crosses of June 7 were awarded. The records told of the "splendid courage" of Lieutenant Percy Valentine Storkey; the "magnificent heroism" of Second-Lieutenant Alfred Cecil Herring, and the "supreme fearlessness" of Sergeant Albert Mountain. And truly Mountain seemed to have in the blood of him that battle-spirit which had made the Old Fighting Fourteenth dreaded on many a stubbornly contested field, and not least on that celebrated field of Famars where they won added fame and captured as their regimental march the rousing drum and fife notes of the Revolutionary "Ça Ira." The day was going none too well with the old West Yorkshiremen, and their colonel saw it; he saw also that it was going too prosperously for the enemy, whose band were loudly playing the "Ça Ira." That fine soldier might well have been one of the resourceful fighters of the Great War, living before his time, for he shouted to his own band the order to strike up the air which the enemy were playing—"and," he added "we'll beat 'em to their own damned tune!" And the Old Fourteenth did, for which reason from that day onward the air to which so many victims had been drummed to the guillotine became the march-past of the West Yorkshires. Such a fearless, conquering spirit possessed Sergeant Mountain. His company had hastily dug themselves in during an enemy attack, and were in an exposed position on a sunken road. Intense artillery fire forced them to vacate the road and fall back. The enemy in the meantime were advancing in mass, preceded by a patrol about 200 strong. The situation was critical and there was a call for volunteers for a counter-attack. Mountain immediately stepped forward, and "his party of 10 followed him." Then he advanced on the flank with a Lewis gun and brought enfilade fire to bear on the patrol, of whom about 100 were killed. Meanwhile the remainder of the company made a frontal attack, with the result that the entire patrol was cut up and 30 prisoners were taken. The enemy main body appeared at this time and the men, who were numerically very much

SERGT. ALBERT MOUNTAIN (left), West Yorkshire Regiment, and PRIVATE THOMAS YOUNG, Durham Light Infantry.
Photographed after receiving their Crosses in the Courtyard of Buckingham Palace.

weaker than the enemy, began to waver. Mountain thereupon rallied and organized his party and formed a defensive position from which to cover the retirement of the rest of the company and the prisoners. With this party of "one non-commissioned officer and four men" the sergeant successfully held at bay no fewer than 600 of the enemy, for half an hour; then at last he retired and rejoined his company. Having performed these prodigies Mountain took command of the flank post of the battalion, which was "in the air," and Lipscomb and four men." Under Storkey's leadership this little band of two officers and 10 other ranks charged the enemy position with fixed bayonets. It was an impetuous but thoroughly successful onslaught, and despite the odds of 10 to one in his favour and the additional advantage of being on the defensive the enemy was completely routed, about 30 of his party being killed or wounded and 3 officers and 50 men made prisoners, with one machine-gun.

Second-Lieutenant Herring's exploit also

CAPTAIN VALENTINE STORKEY LEAVES THE PALACE WITH A FRIEND.

for 27 hours he held on there until he was finally surrounded by the enemy. Sergeant Mountain was "one of the few who managed to fight their way back."

Lieutenant Storkey unhesitatingly attacked against great odds. He was in charge of a platoon and on emerging from a wood the enemy trench line was encountered. The lieutenant found himself with only six men; but he continued his move forward. While doing this about 80 or 100 of the enemy, with several machine-guns, were seen to be holding up the advance of the troops on the right. Storkey at once resolved to attack this large party from the flank and rear. During the forward movement he was joined by "Lieutenant showed swift decision and skilful handling of troops. After severe fighting the enemy had gained a position on the south bank of a canal and Herring's post was cut off from the troops on both flanks and surrounded. The subaltern, however, counter-attacked immediately and recaptured the position, with six machine-guns and a score of prisoners. During the night the post was ceaselessly attacked, but all assaults were beaten off, largely through the heroism of the lieutenant, who continually visited his men and cheered them up. "It was entirely due to the bravery and initiative of this officer that the enemy advance was held up for 11 hours at an exceedingly critical period."

Rifleman Karanbahadur Rana added to the renown which his fellow Gurkhas had won in the war. His was more an exhibition of consistent coolness and devotion to duty than the performance of remarkable acts such as

THE FIRST GURKHA V.C. OF THE WAR.
Rifleman (afterwards Naik) Kulbir Thapa, V.C., 3rd Q.A.O. Gurkhas.
(See vol. X, p. 19.)

those which have been just described; yet he too displayed that special valour without which no Cross could be awarded. He and a few more men during an attack crept forward under intense fire with a Lewis gun, so as to engage an enemy machine-gun which had caused severe casualties to troops who had tried to put it out of action. On opening fire No. 1 of the Lewis gun was instantly shot dead, whereupon the rifleman without the slightest hesitation pushed the body off the weapon and in spite of bombs hurled at him and heavy fire from both flanks he opened fire and knocked out the hostile machine-gun crew; then he switched his fire on the enemy bombers and riflemen in front of him and silenced their fire. The Gurkha kept his gun in action, and twice when defects prevented firing he removed them. During the rest of the day he did "magnificent work," and when a withdrawal was ordered, he helped with covering fire until the enemy were close upon him.

"Cheerful and uncomplaining throughout" was a singular but well-deserved tribute to Private Robert Edward Cruickshank. His was indeed an uncommon achievement, even amongst the unusual performances of winners of the Cross. His platoon came under very heavy rifle and machine-gun fire at short range, and was led down a steep bank into a wadi, most of the men being hit before they reached the bottom. The officer in command was shot dead soon after the bottom was reached. The sergeant, who took over command, sent a runner back to company headquarters, asking for support, but he had scarcely done this when he was mortally wounded. The corporal had been killed in the meantime, and the only non-commissioned officer who was left, a lance-corporal, believing that the runner had been killed, called for a volunteer to take a second message back. Private Cruickshank responded immediately and rushed up the slope; but he was hit and rolled back into the bottom of the wadi. He rose and again rushed up the slope, but for the second time he was wounded and rolled back into the wadi. These setbacks seemed to act upon the soldier as a tonic, for after his wounds had been dressed he rushed for the third time up the slope. Once more the dauntless private was wounded, so badly that he was unable to stand, whereupon, with amazing calmness and

PRIVATE R. E. CRUICKSHANK,
London Regiment.

presence of mind, "he rolled himself back amid a hail of bullets." Unable through his wounds to make any further attempt, he lay all day in a dangerous position, being sniped at and again wounded where he lay—yet he was "cheerful and uncomplaining throughout."

Private Cruickshank afforded an interesting illustration of the successful conversion of the ordinary citizen into the finest type of soldier. He was thirty years old and went to London from Winnipeg, where he was born and spent

the first three years of his life. He was much interested in the Boy Scout movement and became assistant scoutmaster of a North London corps. That experience was undoubtedly good training for Cruickshank, as it proved for not a few of the winners of the

CORPORAL (Lance-Sergt.) J. E. WOODALL, Rifle Brigade.

Cross. He was described as an excellent platform speaker, and took part in three political contests at Tottenham. After seeing service in France he went to Palestine, where, presumably, his Cross was won.

A remarkable feature of eleven Crosses which were gazetted on June 28, 1918, was that no fewer than three of the recipients belonged to the Rifle Brigade and came from towns in the same part of England—Derby, Salford and Nuneaton. A fourth recipient came from Coniston and a fifth from Leeds. These were the non-commissioned officers and men amongst the eleven, the rest being officers, whose regiments only, in accordance with custom, were given. It happened, therefore, that of the eleven winners the five specified came from the neighbouring counties of Westmorland, Yorkshire, Lancashire, Derbyshire and Warwickshire. The trio added considerably to the war's record of Crosses for the old 95th, making the fine total of ten.

"The example set by Sergeant Woodall was simply magnificent, and had a marked effect on the troops," was officially recorded of Lance-Sergeant Joseph Edward Woodall, the Rifle Brigade (Salford). It was during an attack that he showed the courage and fine leadership which ensured success of an operation on a particular portion of the front. The platoon which Woodall commanded was held up by a machine-gun. His first great feat, done on his own initiative, was to rush forward and, single-handed, capture the gun and eight men. The objective having been gained, heavy fire was encountered from a farmhouse which was only about 200 yards in front. Collecting ten men, the sergeant brilliantly and bravely rushed the farm, and 30 prisoners were taken. The officer in charge being killed soon afterwards, Woodall took entire command, and most skilfully disposed of two platoons which he had reorganized. In spite of intense shelling and machine-gun fire the sergeant was constantly on the move, not only encouraging his men, but also finding out and sending back invaluable information.

William Beesley, of Nuneaton, was a young soldier, and his acts assuredly warranted even the statement that his indomitable pluck,

SERGEANT W. GREGG, Rifle Brigade.

skilful shooting and good judgment in economising ammunition stamped "the incident as one of the most brilliant actions in recent operations." Two companies of the private's unit had attacked, without artillery preparation, the enemy's outpost position. Taking command, owing to heavy losses of officers, Beesley led the assault. He rushed a post single-handed and killed with his revolver two of the enemy who were at a machine-gun; after which he shot dead an officer

who ran from a dug-out to take their place. In theory this rifleman should not have had a chance of surviving, so heavy were the odds against him, yet it happened that when three more officers appeared from the dug-out he called upon them to surrender, and, "seeing one of them trying to get rid of a map, he shot him and obtained the map. He took four more prisoners from a dug-out and two others from a shelter close by, disarmed them and sent them back to our lines." Presumably the call to surrender was obeyed by the companions of the map-bearing officer who was shot; so that by this time Beesley had shot two officers and two men and taken two officers and six other enemies prisoner—a noble bag. But his wonderful work was not yet completed. As soon as he had sent the captives to our lines his Lewis gun was brought up by a comrade who was acting as a carrier, and immediately bringing this weapon into action, Beesley used it with great effect against the enemy, upon whom he inflicted many casualties as they bolted towards their support line. This brave pair of riflemen held on to the position for four hours, under very heavy rifle and machine-gun fire; and the enemy heartened himself enough to counter-attack, with the result that the carrier was wounded. Still the unbeaten and undismayed young soldier "carried on by himself, and actually maintained his position until 10 p.m., long after the posts on his right and left had been practically wiped out and the survivors had fallen back." Beesley had been chiefly instrumental in preventing the enemy from rushing the position and enabling the remnants of his company to withdraw without further loss. It was not till darkness set in that he made his way back to the line from which the attack had started, "bringing with him the wounded carrier and the Lewis gun," and crowning his truly glorious conduct by at once mounting the gun in the trench and remaining in action "until things quietened down." Beesley was Nuneaton's second Victoria Cross recipient, and the little town showed its pride in the intrepid Greenjacket by presenting to him £700 in War Bonds.

[*Official photograph.*

PRIVATE (Corporal) BEESLEY (Rifle Brigade), RECEIVES HIS VICTORIA CROSS AT THE HANDS OF THE KING IN FRANCE.

The Rifleman from Derby—Sergeant William Gregg—had already shown his mettle by winning the Distinguished Conduct Medal and the Military Medal. Presumably his Cross was awarded for the bravery and leadership he

showed in the same circumstances as Beesley, for in his case also it was stated that two companies of his unit attacked the enemy's outpost position without artillery preparation. Gregg also took command when all the officers of the right company were hit, and he too rushed an enemy post and personally killed an entire machine-gun team and captured the gun and four men in a dug-out near by; after which he rushed another post and killed two men and captured another. Having done this he took further resourceful steps to consolidate

[Official photograph.

THE KING CONGRATULATING SEC.-LIEUT. (then Captain) JOHN CROWE, after decorating him in France with the Victoria Cross.

his position, saving a critical situation and ensuring the success of the attack. An enemy counter-attack subsequently drove back the sergeant's party; but reinforcements coming up he led a charge, personally bombed a hostile machine-gun, killed the crew and captured the gun. Driven back once more, he led another successful assault, "and hung on to the position until ordered by his company commander to withdraw." Sergeant Gregg was under very heavy fire for several hours, but throughout he showed the greatest coolness and walked about and encouraged his men, "setting a magnificent example." Apart from what they did generally, these three Riflemen amongst them killed two officers, two machine-gun teams and four other men; and captured three machine-guns, two officers and 19 men.

The excessive strain to which officers and men who won the Cross were necessarily put was shown by the statement that one of the officers included in this list of eleven—Second-Lieutenant John Crowe, Worcestershire Regiment—"throughout the seven days of operations" was "recklessly brave." For the third time the enemy had attacked a village, and at last had broken past on to high ground and established a machine-gun and snipers in broken ground behind the village. Twice did this officer go forward with two non-commissioned officers and seven men to engage the enemy; and so daring was his action that each time the enemy withdrew from the high ground into the village. Crowe followed the runaways, and as they collected in the doorways of the houses he personally opened fire on them. On the second occasion, with only two men of his party, he attacked two enemy machine-guns which were sweeping past the post. The lieutenant killed both the gunners with his rifle, and prevented any others from reaching the guns and bringing them into action again; then he turned upon a party of the enemy who were lined up in front of him, and killing several of these compelled the rest to withdraw. Crowe captured both the guns—a success which must have been especially gratifying to him, for one was the battalion Lewis gun which the enemy had captured on the previous day. He crowned his skill and coolness at the last moment, when, having already done much to cheer and help his little gallant garrison, he took effective steps to save it. At this crisis he personally placed the covering party close to the enemy, who were again closing round and were actually forming up in fours near by. But for Crowe the garrison could never have escaped.

To the remarkable number of Crosses which had been awarded to the Lancashire Fusiliers—they had won thirteen during the war—was added Temporary Second-Lieutenant John Schofield's, a posthumous honour. With a party of only nine men Schofield led an assault against a strong point which was reported to be strongly held. He was attacked by about 100 of the enemy with bombs, but disposed his small band so skilfully and made such good use of rifle and Lewis gun fire that the enemy took cover in dug-outs; then he himself held up and captured a party of 20. Other parties

giving help, this position was cleared of the enemy, all of whom were killed or captured. Collecting the rest of his men, Schofield made up his party to ten—a tiny unit—and, having informed his commanding officer as to the

TEMP. SEC.-LIEUT. JOHN SCHOFIELD,
Late Lancashire Fusiliers.

position and intimated that he was proceeding to retake the front line, he set about his self-imposed and risky task. There could be no shrinking from even such an undertaking, and Schofield did not hesitate or quail, although he met large numbers of the enemy in a communication trench in front of him and in "a drain on his right and left." Rapid rifle fire, that terrible hail which the Germans had such good cause to dread, was opened by his party, and the subaltern, climbing out on to the parapet under point-blank machine-gun fire, showed such fearlessness and bravery that the enemy were forced to surrender, 123, including several officers, being captured by Schofield and his party. A few minutes after this intrepid achievement "this very gallant officer" was killed.

Another posthumous honour was awarded to Second-Lieutenant Joseph Henry Collin, Royal Lancaster Regiment, who had long and bravely fought against heavy odds in "the Keep"—suggestive of an old castle. With only five men of his platoon remaining Collin slowly withdrew before superior numbers. He contested every inch of the ground and was hard pressed with bombs and close-range machine-gun fire. At this stage he, like the splendid fighter at bay that he was, attacked the machine-gun and team single-handed. First he used his revolver, firing into the enemy, then he seized a Mills grenade and threw it into the hostile team with such success that he put the gun out of action and killed four of the team and wounded two. A second machine-gun was firing, and observing this Collin took a Lewis gun and, choosing a high point on the parapet from which he could engage the weapon, he, unaided, "kept the enemy at bay until he fell mortally wounded."

Another member of the Royal Lancaster Regiment—Lance-Corporal James Hewitson, of Coniston—was included in this list of 11. He was a truly fit companion of the young officer, and performed "extraordinary feats of daring" which crushed hostile opposition, and well it might, for this fighter killed 16 men and captured one. It was daylight, and an attack was being made on a series of crater

LIEUT. J. H. COLLIN,
late Royal Lancaster Regiment.

posts. The corporal daringly led his party to their objective, and from trench and dug-outs cleared the enemy, killing in one dug-out six "who would not surrender." Having captured the final objective he saw a hostile machine-gun team coming into action against his men. Hewitson worked his way round

the edge of the crater, and attacked the team, killing four and taking one; and soon afterwards he routed a bombing party which was attacking a Lewis-gun post, and killed six of them.

One of that great and noble band who had been ordered to "hold on to the last," a band of which many members, unquestioningly obeying, perished and left no spoken proof of their devotion, Captain Julian Royds Gribble, Royal Warwickshire Regiment, set a "splendid

CAPTAIN J. R. GRIBBLE,
Royal Warwickshire Regiment.

example of grit"—a unique expression for an official record of a Cross achievement. And this was no less than modestly true, for the captain was materially instrumental in preventing for some hours the enemy obtaining the complete mastery of a crest of ridge; and his self-sacrifice enabled the remainder of his own brigade, as well as another garrison and three batteries of field artillery, to be withdrawn. Gribble was in command of the right company of the battalion when the enemy attacked, and he received his orders to hold on to the last. Eventually his company was entirely isolated, though he could easily have withdrawn them when the rest of the battalion on his left were driven back to a secondary position. The captain's right flank was "in the air" through the withdrawal of all troops of a neighbouring division. He made known, by means of a runner to the company on his left rear, his determination to hold on until other orders were received from battalion headquarters—"and this he inspired his command to accomplish." Gribble's company was eventually surrounded by the enemy at close range, and it could only be recorded of him that "he was seen fighting to the last." "His subsequent fate is unknown." Most happily, not long after Gribble's fate was officially reported "unknown," he wrote to

[*Elliott & Fry.*

CAPT. MANLEY ANGELL JAMES,
Gloucestershire Regiment.

members of his family stating that he was a prisoner at Mainz, Germany.

"He was last seen working a machine-gun single-handed, after having been wounded a third time," was told of Captain Manley Angell James, M.C., Gloucestershire Regiment. Here again was an instance of devotion to the very letter, for James had been ordered to hold on "to the last." He had led his company forward with the utmost bravery and resolution and so successfully that he had caused heavy casualties to the enemy and had taken two machine-guns and 27 prisoners. Though wounded he refused to leave his company, and next day he repulsed three onslaughts. Two days later, although the enemy had broken through on his right flank, he refused to withdraw, and making a most determined stand he inflicted very heavy losses on the enemy and

gained valuable time for the withdrawal of guns. Ordered now, by the senior officer on the spot, to hold on to the last, to enable the brigade to be extricated, he led his company forward in a local counter-attack on his own initiative, and again was wounded. It was after this that he was seen for the last time. "No praise can be too high for the gallant stand made by this company," the record stated, "and Captain James, by his dauntless courage and magnificent example, undoubtedly enabled the battalion to be withdrawn before being completely cut off."

During a raid on the enemy's trenches Lieutenant George Burdon McKean, Canadian Infantry, saved many lives and showed splendid leadership. The circumstances of the case were uncommon and indicated that a situation had arisen which called for the exercise of the gratest agility and pluck. The lieutenant's party was held up at a block in the communication trench by most intense

LIEUT. G. B. McKEAN
Canadian Infantry, shows his Victoria Cross.

fire from hand grenades and machine-guns. The block was well protected by wire and was covered by a machine-gun, also well protected, 30 yards behind it; and the block was too close to our trenches for the preliminary bombardment to have engaged it. McKean saw that the success of the whole operation might be marred if the block were not destroyed, and, running into the open to the right flank of the block, he leaped over it, "head first on top of the enemy." A desperate struggle followed this unexpected advent of the Canadian. He was lying on the ground, on top of one of the enemy, when another opponent rushed

PRIVATE ARTHUR POULTER,
West Riding Regiment.

at him with fixed bayonet. The chance of escape looked small for the subaltern, but he managed to shoot the man with the bayonet through the body; "and then shot the enemy underneath him, who was struggling violently." As a result of this action the position was captured; but McKean's task was not yet finished. His supply of bombs ran out, and he sent back to our front line for a fresh supply. His staying power and pluck were shown by the fact that whilst waiting for them he engaged the enemy single-handed. On getting the bombs he fearlessly rushed the second block, and killed two of the enemy, captured four others, and drove the remaining garrison, which included a hostile machine-gun section, into a dug-out. McKean put the finish to a thrilling and most useful piece of work by destroying the dug-out, with its occupants and gun. His dash and daring had saved many lives, for if the position had not been captured the whole of the raiding party would have been exposed to dangerous enfilading fire during the withdrawal.

A stretcher-bearer from Wortley, Leeds, Private Arthur Poulter, West Riding Regiment, completed this list of recipients. On no fewer than ten occasions he carried badly wounded men on his back to a safer locality, "through a particularly heavy artil-

lery and machine-gun barrage." Two of these men were hit a second time whilst on his back. Again, after a withdrawal over a river had been ordered, Poulter returned in full view of the enemy, who were advancing, and carried back another wounded man who had been left behind. He bandaged up more than 40 men under fire, and throughout the whole

[*Elliott & Fry,*

THE REV. T. BAYLEY HARDY,
Temp. C.F., attached Lincolnshire Regiment.
(Died of wounds.)

day his conduct was "a magnificent example to all ranks." Subsequently, while attempting another rescue in the face of the enemy, Private Poulter was seriously wounded.

Army chaplains had repeatedly proved their courage and devotion in the war, and to two of them the Cross had been awarded—the Rev. E. N. Mellish and the Rev. W. R. F. Addison. A third Cross for a chaplain was announced from the War Office on July 11, 1918, the recipient being the Rev. Theodore Bayley Hardy, whose previous conduct had earned for him the D.S.O. and the M.C. These distinctions were a tribute to many fine achievements, which were all the more remarkable because they were the work of a man of middle age—Chaplain Hardy was over fifty years of age when he was added to the V.C. roll for repeated displays of devotion to duty when attached to the Lincolnshire Regiment. He showed all the quietness and unobtrusiveness of a clergyman of modest disposition, and yet displayed "marvellous energy and endurance which would have been remarkable even in a very much younger man." Particular incidents exemplified the valour for which the Cross was given. The first of these concerned an attack by a patrol on an enemy post in the ruins of a village. Chaplain Hardy heard the firing and, following the patrol about 400 yds. beyond our front line of posts, he found an officer of the patrol dangerously wounded. Pursuing the policy of fearlessness and devotion to members of his battalion which had previously distinguished him, the chaplain remained with the helpless officer until he was able to get help to bring him in. There was a great deal of firing during this time, and so menacing did the situation become that an enemy patrol actually penetrated between the spot where the officer was lying and our front line—so successfully that they took three of

CAPT. (Temp. Lieut.-Col.) C. E. HUDSON,
Notts and Derbyshire Regiment.

our men prisoner. On a second occasion an enemy shell had burst in the middle of one of our posts. A building had been struck by the shell and men had been buried in the *débris*. Seeing what had happened, Chaplain Hardy immediately made his way to the spot and set to work to extricate the men. His task was one of the greatest peril, for not only was he under shell and trench-mortar fire, but there was also a probability of the collapse of a wall which had been hit by the shell and was in a

dangerous condition. The chaplain succeeded in so far that he got out one man who had been completely buried; and he then set to work to extricate a second man, who was found to be dead. A third exhibition of calm courage was shown by this clergyman when our infantry, who had successfully attacked, were gradually forced back to their starting trench. When it was believed that all our men had withdrawn from a wood the chaplain came out of it and, on reaching an advanced post, he asked the men to help him to get in a wounded man. Accompanied by a sergeant he reached a spot where the man lay—within ten yards of a hostile pill-box—and so well did the pair set about their task of succour that they rescued the wounded man, who was too weak to stand, and finally got him to our lines. "Throughout the day the enemy's artillery, machine-gun, and trench-mortar fire was continuous, and caused many casualties. Notwithstanding this, this very gallant chaplain was seen moving quietly amongst the men and tending the wounded, absolutely regardless of his personal safety." Chaplain Hardy's honour was a source of particular pride to the City of London School, which he joined in 1879. He was a schoolmaster for twenty years, and at the beginning of the war he was a country parson. In October, 1918, came the sad news that Chaplain Hardy had died of wounds in France.

The chaplain's award was accompanied by three other announcements, one to a commanding officer, of whom a number had been so honoured in a few preceding months. This was Lieut.-Col. Charles Edward Hudson, D.S.O., M.C., Nottinghamshire and Derbyshire Regiment, whose "high courage" and "quick determination" saved a serious situation when his battalion was holding the right front sector during an attack on the British front. Very heavy shelling on the right had destroyed a trench; considerable casualties had occurred and all the officers on the spot were killed or wounded. The enemy were enabled to penetrate our front line and to push their advance as far as the support line, which was the key to our right flank. Instant action was demanded, and Lieut.-Col. Hudson, realizing this, "at once collected various headquarter details, such as orderlies, servants, runners, etc., and, together with some Allies, personally led them up the hill." This gallant mixed scratch band, under that masterful, inspiring leadership, drove the enemy down the hill towards our front line; then the colonel again led a party—it was only "about five"—"up the trench, where there were about 200 enemy, in order to attack them from the flank. He then with two men got out of the trench and rushed the position, shouting to the enemy to surrender." Some of them obeyed. At this stage of his remarkable performance a bomb exploded on his foot and severely wounded him; but, although in great pain, he directed the counter-attack to be continued; and this order was so efficiently carried out that about 100 prisoners and six machine-guns were taken.

Two members of the Australian Imperial

LIEUT. C. W. K. SADLIER, A.I.F.

Force—Lieut. Clifford William King Sadlier and Sgt. William Ruthven—completed the list. The subaltern "saved a most critical situation," and the sergeant "set a splendid example of leadership"; but more, far more than these things was done. Sadlier's battalion was attacking strong enemy positions. His platoon was prevented from advancing through a wood by a strong machine-gun post. The hostile fire caused many casualties, including the lieutenant, who was wounded. In spite of his condition he at once collected his bombing section, and, leading it against the machine-guns, killed the crews and captured two of the weapons. By this time his party were all casualties; but, alone, and wounded though he was, he attacked a third enemy machine-gun with his revolver, killed the crew of four and took the gun. In thus completing work which cleared the flank and allowed the battalion to move forward and so save "a most critical situation" Lieut. Sadlier was again wounded.

In the case of Sgt. Ruthven also there had been numerous casualties during an advance, and his company commander was severely wounded; whereupon the sergeant took command of this portion of the assault, took charge of the enemy headquarters, and rallied the section in his vicinity. Close-range machine-gun fire by the enemy was brought to bear as the leading wave neared its objective; but the sergeant instantly sprang out, threw a bomb

SERGT. (Lieut.) W. RUTHVEN, A.I.F.

which landed beside the post, and rushed the position, bayoneting one of the crew and capturing the gun. Encountering some of the enemy coming out of a shelter Ruthven did not hesitate to hurl himself upon them. His courage was rewarded, for he wounded two, and captured six others in the same position, handing them over to an escort from the leading wave, which had now reached the objective. So far this non-commissioned officer from overseas had done exceedingly well; but he was not satisfied, and having reorganized the men near him, he established a post in the second objective. He now saw enemy movement in a sunken road near by and, armed only with a revolver, he unhesitatingly and alone rushed the position, shooting two of the enemy who refused to leave their dug-outs. Still working single-handed, Sgt. Ruthven "mopped up this post and captured the whole of the garrison, amounting in all to 32," and he kept them until help arrived to escort them back to our lines. After this rousing display of individual heroism and fearlessness the sergeant spent the rest of the day in setting an example of leadership, moving up and down his position under fire, supervising consolidation and encouraging his men. It was told of him that throughout the whole operation he showed the most magnificent courage and determination, "inspiring everyone by his fine fighting spirit, his remarkable courage, and his dashing action."

At this period no fewer than 36 Victoria Crosses had been awarded to Australian troops; in addition the following distinctions had been won:—D.S.O., 370 (14 bars); M.C., 1,258 (48 bars); D.C.M., 920 (10 bars); M.M., 5,206 (167 bars and two double bars); foreign decorations, 248. Many methods had been adopted to show admiration of the deeds of winners of the Cross, but not one of them was quite of the character adopted by the Hon. Hugh D. McIntosh, M.L.C., who announced that all the Australian V.C.'s would be presented with gold life passes entitling to free admission for themselves and their families to all the theatres and variety houses controlled by him throughout the Commonwealth.

Exactly three months after the brilliantly successful operations against Zeebrugge and Ostend a large number of honours for Naval heroes were gazetted, amongst them being six Victoria Crosses. The famous enterprise was carried out on the night of April 22–23, 1918, and the honours were published in the first part of a Supplement to the *London Gazette* dated July 23. These awards were especially welcome to a vast admiring public which realized that during a prolonged period the Navy had been doing a work which, while immeasurably important, did not offer many opportunities for meeting the Germans on the grand scale; and not since the Jutland battle had there been such a chance for personal prowess as that which Zeebrugge and Ostend afforded. No fewer than four of the Crosses were given by selection, under Rule 13 of the Royal Warrant of January 29, 1856. This circumstance alone was proof of the difficulty of choosing from a band of which every member was a hero.

For all time in naval annals the Vindictive had won a renown as unique as the glory which for more than a century had invested Nelson's Victory, and the cruiser figured very largely in the stories of the deeds for which the Crosses were awarded. First in the inspiring list

came Captain Alfred Francis Blakeney Carpenter, R.N., commanding the Vindictive. It was told of him that he set a magnificent example to all under his command by his "calm exposure when navigating mined waters, bringing his ship alongside the mole in darkness." When the Vindictive was within a few yards of the mole the enemy started and maintained a heavy fire from batteries, machine-

CAPT. A. F. B. CARPENTER, R.N., Commanded H.M.S. Vindictive in the attack on Zeebrugge.

guns and rifles on to the bridge. Now it was that Captain Carpenter showed the conspicuous bravery which did so much to encourage his crew in the desperate task to which they had so willingly committed themselves. He supervised the landing from the ship on to the mole, and walked "round the decks directing operations and encouraging the men in the most dangerous and exposed positions." He was selected to receive the Victoria Cross by the officers of the Vindictive, Iris II., and Daffodil, and of the naval assaulting force.

Captain Edward Bamford, D.S.O., R.M.L.I., was selected by the officers of the Royal Marine Artillery and Royal Marine Light Infantry detachments. He landed on the mole from the Vindictive with Nos. 5, 7 and

CAPT. EDWARD BAMFORD, R.M.L.I.

8 platoons of the marine storming force in the face of great difficulties. When on the mole and under heavy fire he showed the greatest initiative in the command of his company, and set a magnificent example to his men by his total disregard of danger. Captain Bamford first established a strong point on the right of the disembarkation, and when satisfied that this was safe he led an assault on a battery to the left "with the utmost coolness and valour."

"This very gallant sergeant of the Royal Marine Artillery was selected by the 4th Battalion of Royal Marines, who were mostly Royal Marine Light Infantry, to receive the Victoria Cross" was recorded of Sergeant Norman Augustus Finch. The sergeant was second in command of the pom-poms and Lewis guns in the foretop of the Vindictive, under Lieutenant Charles N. B. Rigby, R.M.A. The official details in this case clearly demonstrated the extreme peril of the sergeant's position and his consummate coolness and irrepressible energy. This foretop fight stood out with great distinctness in the acts for which the Cross had been awarded and it was reminiscent of many a spirited exploit dating from the time of the old sailing Navy when captains of tops proved their prowess. The Vindictive at one period of the operations was being hit every few seconds, chiefly in the upper works, from which splinters caused many casualties. It was difficult to locate the

A. E. McKENZIE, A.B.

guns which were doing the most damage, but Rigby, Finch and the Marines in the foretop kept up a continuous fire with pom-poms and Lewis guns, changing from one target to another and so to a considerable extent keeping down the enemy's fire. The foretop was completely exposed to concentrated enemy fire, and unfortunately two heavy shells made direct hits on it. All in the top were killed or disabled except Finch, and even he was severely wounded; nevertheless he remained in "his battered and exposed position." Once more getting a Lewis gun into action he kept up a continuous fire and harassed the enemy on the mole until the foretop received another direct hit, the remainder of the armament being then completely put out of action. Sergeant Finch had done invaluable work before the top was destroyed and he undoubtedly saved many lives by his bravery.

PUBLIC WELCOME TO ABLE SEAMAN A. E. McKENZIE IN SOUTHWARK.

Able-Seaman Albert Edward McKenzie was selected by the men of the Vindictive, Iris II., and Daffodil and of the naval assaulting force. He belonged to B Company of seamen storming party and having landed on the mole with his machine-gun, in spite of great difficulties, he used the weapon to the utmost advantage and did "very good work." He advanced down the mole with Lieutenant-Commander Harrison, who with most of his party was killed, and accounted for several of the enemy running from a shelter to a destroyer alongside the mole. McKenzie was severely wounded whilst working his gun in an exposed position.

These four exploits were typical of the unconquerable spirit of the whole of the attacking force, and the Crosses awarded in connexion with them symbolized the general behaviour; greater individuality attached to the achievements for which Lieutenant Richard Douglas Sandford, R.N., and Lieutenant Percy Thompson Dean, R.N.V.R., won the Cross. Sandford, indeed, was the hero of one of the most remarkable and successful naval feats of the war. He was in command of Submarine C.3, and it was owing to his skill that that explosive-laden craft was placed in between the piles of the viaduct before lighting his fuse and abandoning her. "He eagerly undertook this hazardous enterprise, although well aware (as were all his crew) that if the means of rescue failed and he or any of his crew were in the

water at the moment of the explosion they would be killed outright" by the force of it. The stern resolution of the naval officer and his comrades to carry out their task was shown by the fact that he "disdained to use the gyro steering, which would have enabled him and his crew to abandon the submarine at a safe distance, and preferred to make sure, as far as was humanly possible, of the accomplishment of his duty."

Lieutenant Dean handled his vessel—Motor Launch 282—"in a most magnificent and heroic manner when embarking the officers and men from the blockships at Zeebrugge." He followed the blockships in and closed the Intrepid and the Iphigenia under a constant and deadly fire from machine and heavy guns at point-blank range, and embarked more than 100 officers and men. Having finished this fine piece of work Lieutenant Dean was proceeding out of the canal when he heard that an officer was in the water. Promptly returning, he rescued the officer, "and then proceeded, handling his boat throughout as calmly as if engaged in a practice manœuvre." So desperate was this particular part of the affair that three men were shot down at Dean's side whilst he conned his ship. On clearing the entrance to the canal the steering-gear broke down, and destruction must have seemed assured, yet even at such a crisis the lieutenant's courage and resource did not fail him in the least—he manœuvred his boat by the engines, and "avoided complete destruction by steering so close in under the mole that the guns in the batteries could not depress sufficiently to fire on the boat." This official statement clearly indicated the complete self-possession of the officer and his swiftness to realize the method by which alone he could escape from the peril attending an operation the whole of which was carried out "under a constant machine-gun fire at a few yards' range." It was solely due to Dean's courage and daring that M.L. 282 saved so many valuable lives.

Three more Crosses were announced on August 28, 1918, for the Ostend operations, these awards being included in a long list of honours for the Navy contained in a dispatch from Vice-Admiral Sir Roger J. B. Keyes, commanding the Dover Patrol. The dispatch was dated July 24, 1918, and related to the second blocking operation against Ostend on the night of May 9-10. The Germans had made special preparations in anticipation of a renewed attack, the Admiral explained; and

SERGEANT FINCH, R.M.A. (left), IN HOSPITAL.

the operation was carried out in mined waters in the face of a tremendous fire. The greatest credit was due to those who so readily volunteered for hazardous service in the Vindictive

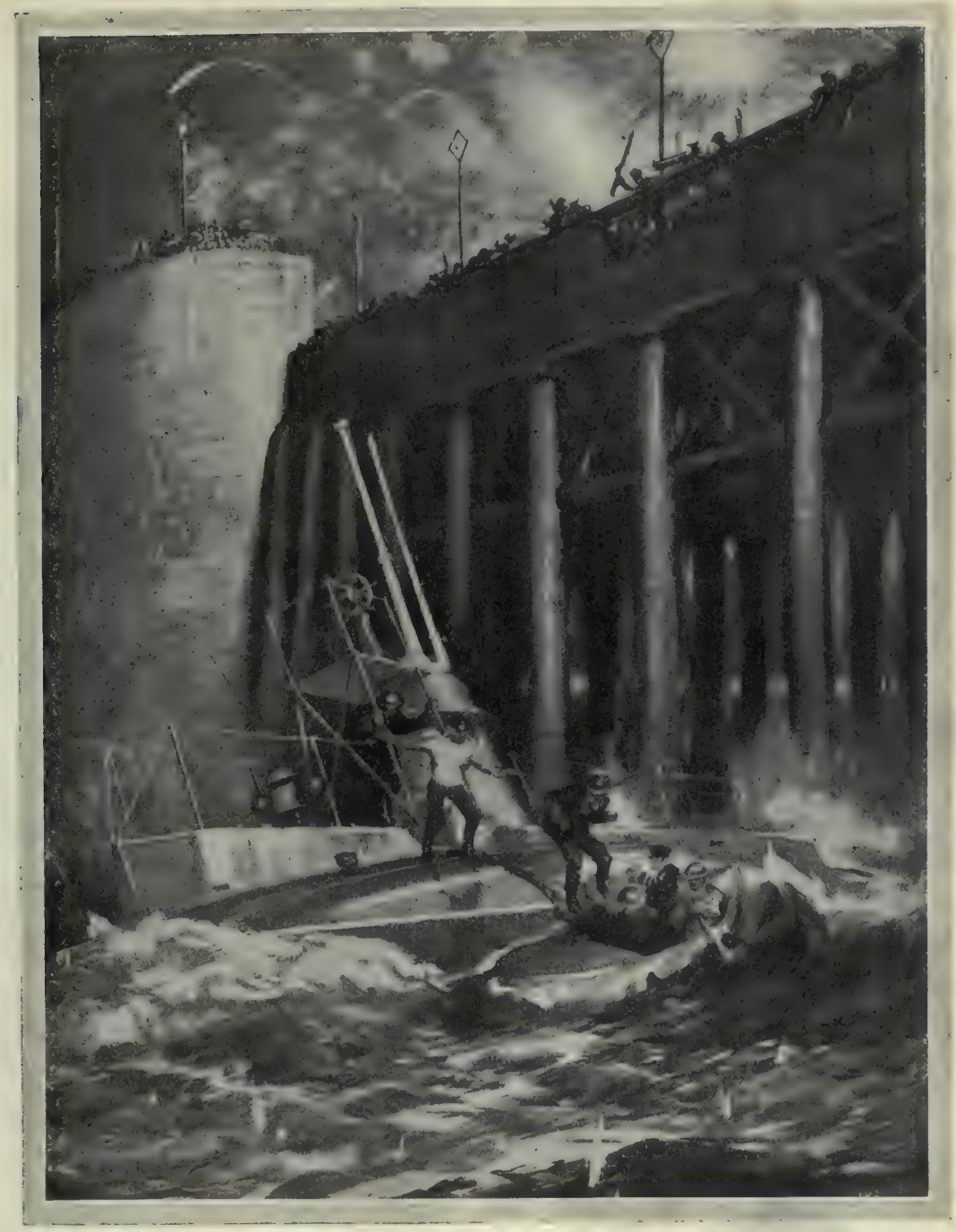
LIEUT. RICHARD D. SANDFORD, R.N.

and in motor launches detailed for rescue work, and to the crews of the numerous craft which "covered and screened the approach of the Vindictive, led her to her objective, and rescued the survivors of her crew after she had been blown up between the piers of Ostend harbour." The details which were published concerning the deeds of the three recipients emphasized the desperate nature of the undertaking and the all-round heroism of the officers and men who had taken part in it, and made of it one of the most brilliant achievements in our naval annals.

The three recipients were Lieutenant-Commander Geoffrey Heneage Drummond, R.N.V.R.; Lieutenant-Commander Ronald Bourke, D.S.O., R.N.V.R.; and Lieutenant Victor Alexander Charles Crutchley, D.S.C., R.N. Drummond and Bourke commanded motor launches, while part of the brave work which won the Cross for Crutchley was also done in a motor launch. These small vessels, therefore, took a remarkably prominent share in these memorable operations. Only very exhaustive detail could make perfectly clear, and do full justice to, the acts for which these Crosses were given—and those acts were merely typical of the conduct of the whole of the volunteers that night; yet the particulars in the despatch were enough to show how great was the courage, resolution and self-sacrifice of these three officers. Drummond, in command of M.L. 254, volunteered for rescue work. He was following the Vindictive to Ostend, and when off the piers a shell burst on board his little craft, killing Lieutenant Gordon Ross and deckhand J. Thomas, wounding the coxswain, and also severely wounding Drummond in three places. In spite of his wounds Drummond remained on the bridge, navigated his vessel, which was already seriously damaged by shell fire, into Ostend Harbour, placed her alongside the Vindictive and took off 2 officers and 38 men. All this time the hail of fire continued, and during the embarkation some of this band of 40 were killed and many were wounded. When informed that there was no one alive left on

LIEUT. PERCY THOMPSON DEAN, R.N.V.R.

board Drummond backed his vessel out clear of the piers, then he sank exhausted from his wounds. Half an hour later, when H.M.S. Warwick fell in with M.L. 254 off Ostend the launch was in a sinking condition. "It was due to the indomitable courage of this very gallant officer that the majority of the crew of the Vindictive were rescued."



THE BREACHING OF THE VIADUCT CONNECTING THE MOLE AT ZEEBRUGGE WITH THE LAND BY SUBMARINE C.3 (LIEUT. SANDFORD, R.N.).

Bourke also volunteered for rescue work. He was in command of M.L. 275 and followed the Vindictive into Ostend, engaging with Lewis guns the Germans' machine-guns on both piers. After Drummond had backed his small craft out Bourke laid his vessel alongside the Vindictive to make further search. Finding no one he withdrew, but hearing cries in the water he again entered the harbour, and after a prolonged search he found Lieutenant Sir John M. Alleyne, Bart., D.S.C., R.N., and two ratings, all badly wounded, in the water, clinging to an upended skiff, and he rescued them. The motor launch during the whole of this time was under a very heavy close-range fire, and she was hit in no fewer than 55 places—once by a 6-in. shell; indeed, such was the severity of the firing that of her small crew two were killed and others wounded, and she herself was seriously

MOTOR LAUNCH 254 (LIEUT.-COMMANDER G. H. DRUMMOND) RESCUING THE CREW OF THE VINDICTIVE AT OSTEND.

damaged and her speed was greatly reduced. It spoke well for Bourke's indomitable pluck and his seamanship that he managed to bring his shattered launch out of Ostend harbour, and that he carried on until he fell in with a monitor, which took him in tow. Bourke's bravery and perseverance, it was recorded, undoubtedly saved the lives of Lieutenant Alleyne and two of the Vindictive's crew. This rescue was particularly welcome, for Alleyne had volunteered from a monitor of the Dover Patrol for service in the Vindictive. He did valuable service in refitting navigational arrangements which were destroyed in the Vindictive on April 23, and on the actual night of the operation he was invaluable because of his local knowledge. Alleyne showed great coolness under a very heavy fire, and most skilfully navigated the Vindictive to the entrance to Ostend Harbour. He was severely wounded and rendered unconscious when his captain was killed but the gallant and timely help of Bourke and his survivors saved him from certain death in the water.

Crutchley had already made acquaintance with the Ostend operations, for he was in the Brilliant in the unsuccessful attempt to block the port in April, 1918. At once volunteering for further service, he acted as First-Lieutenant of the Vindictive, and worked with untiring energy fitting out that ship for further service. When his commanding officer had been killed and the second-in-command severely wounded, Crutchley took command of the Vindictive, and by manœuvring the engines did his utmost to place her in an effective position. He showed great bravery both in the Vindictive and in

LIEUT.-COMMANDER GEOFFREY H. DRUMMOND, R.N.V.R.

M.L. 254, which rescued the crew after the charges had been blown and the cruiser sunk between the piers; and he did not leave the Vindictive until, with an electric torch, he had thoroughly searched for survivors under a very heavy fire. When Drummond had sunk exhausted from his wounds, and his second-in-command had been killed, Crutchley took command of M.L. 254, which was full of wounded and very seriously damaged by shell fire, the fore part being flooded. "With indomitable energy and by dint of baling with buckets and shifting weight aft, Lieutenant Crutchley and the unwounded kept her afloat, but the leaks could not be kept under, and she was in a sinking condition, with her forecastle nearly awash, when picked up by H.M.S. Warwick."

The publication of the dispatch was accompanied by the announcement of a considerable number of awards in addition to the Victoria Cross, the list containing the names of several officers and men on whom the Cross had been bestowed. These were Lieutenant R. D. Sandford, V.C., R.N. (Chevalier, Legion of Honour), Petty Officer E. Pitcher, V.C., D.S.M., and Petty Officer G. McK. Samson, V.C., R.N.R., on whom the Médaille Militaire had been conferred by the President of the French Republic.

On July 31 the officers and men who had won the first six of the Zeebrugge and Ostend Crosses were decorated at Buckingham Palace, and Lieutenant George McKean, Canadian Infantry, and Second-Lieutenant Samuel Wallace, R.F.A., were also decorated, while Mrs. Dancox was received by his Majesty, who handed to her, as next-of-kin, the Cross awarded to her late husband, Private Frederick Dancox, Worcestershire Regiment.

During a nine days' visit to the Armies in France in August the King conferred decorations on British officers and men, amongst them being six Victoria Crosses; but the names of the recipients were not published at the time. Unofficially, however, it was stated that Chaplain Hardy, Lieutenant Knox, Sergeant Gregg, Sergeant Train and Private Beesley received their Crosses from the King during the visit. In a letter to Field-Marshal Sir Douglas Haig, headed "France, August 13, 1918," his Majesty said:—"During my visit I have conferred a number of Victoria Crosses for deeds of valour and self-sacrifice, the records of which fill my heart with pride and veneration."

Echoes of the valiant rearguard fighting which had covered British troops with glory were found in the stories of three awards gazetted on July 25. The first of these was to Brig.-Gen. George William St. George Grogan, C.M.G., D.S.O., Worcestershire Regiment, who, throughout three days of intense fighting,

LIEUT.-COMMANDER RONALD BOURKE, R.N.V.R.

showed conspicuous bravery and leadership. With the exception of a few hours' rest Brig.-Gen. Grogan was in command of the "remnants of the infantry of a Division and various attached troops," and the "onward thrust of the enemy masses" was materially stayed by his resource and heroism. The third day of the operations was a most critical one, and throughout it the Brigadier spent his time under artillery, trench mortar, rifle and machine-gun

LIEUT. CRUTCHLEY SEARCHING FOR SURVIVORS ON BOARD THE VINDICTIVE.

fire. His horse was shot under him, but, unperturbed, he continued on foot, encouraging his men, and he maintained that inspiring example until another horse was brought and he was able to continue his desperate task. The Brigadier rode up and down his front line, inspiring and reorganizing not only those who had fallen into disorder but also leading back into the line "those who were beginning to retire." Further, he made "the Allied troops who were alongside" sharers of his enthusiasm, and the result of his display of "the highest valour, powers of command, and leadership" was that the line held and repeated enemy attacks were repulsed.

To the Lancashire Fusiliers was added the distinction of the Cross won by Lce.-Cpl. Joel

BRIG.-GEN. G. W. GROGAN, C.M.G.

Halliwell (Middleton). His heroism also was shown during a withdrawal when the "remnants of the battalion" were closely engaged with the enemy. He managed to capture a stray enemy horse, on which he rode out under heavy rifle and machine-gun fire and rescued a man from "No Man's Land." The corporal repeated this performance not once but several times, and he had the joy of rescuing one officer and nine other ranks—a magnificent performance and a thoroughly inspiring example to all who saw him. With this splendid total to his credit the corporal made another effort to reach a wounded man, but this time he was driven back by the very close advance of the enemy.

The Northumberland Fusiliers provided the third of these recipients, Sec. Lieut. John Scott Youll, who greatly distinguished himself during enemy attacks when commanding a patrol which came under the hostile barrage.

LIEUT. V. A. C. CRUTCHLEY, R.N.

Sending his men to safety, Youll remained to observe the situation. Afterwards, finding that he was unable to rejoin his company, he reported to a neighbouring unit, and when the enemy attacked he maintained his position with several men of different units until the troops on his left had given way and an enemy machine-gun had opened fire from behind him. He found himself in what was apparently a death-trap, but he triumphantly emerged from it. Rushing the gun, he killed most of the team, and by way of finishing his achievement, opened fire with the weapon and inflicted heavy casualties on the enemy. After this unexpected development, finding that the enemy had gained a footing in a portion of the front line, he organized and carried out with a few men three separate counter-attacks so spiritedly that each time he drove back the enemy; but owing to reverse fire he was unable to maintain his position.

Doubtless many of the officers and men to whom the Cross had been awarded had performed fresh acts of heroism which in ordinary circumstances would have entitled them to the bar which is equivalent to a second Cross;

but no such honour had been given with the exception of the bars won by Martin Leake and Chavasse. Lesser, but still great rewards, however, fell to recipients of the Cross, amongst whom was Lt.-Col. W. A. Bishop, V.C., D.S.O., M.C. He was included in a list published by the Air Ministry on August 3 of officers who had received the Distinguished Flying Cross in

LANCE-CORPORAL JOEL HALLIWELL,
Lancashire Fusiliers.

recognition of flying operations against the enemy. This latest honour was conferred upon him for his "signally valuable services in personally destroying 25 enemy machines in 12 days—five of which he destroyed on the last day of his service at the front. The total number of machines destroyed by this distinguished officer is 72, and his value as a moral factor to the Royal Air Force cannot be overestimated." Bishop had been awarded a bar to his D.S.O., so that his wonderful flying achievements had won for him no fewer than five high distinctions. Under the title of "Winged Warfare: Hunting the Huns in the Air," Colonel Bishop had written a book describing his personal experiences. Another famous airman, Captain Ball, V.C., was the subject of a volume of which Mr. Lloyd George said: "Seldom have I come across so fine a spirit of devotion to freedom, home and country as is reflected in Captain Ball's letters to his family." In this book Ball told of many of his famous fights.

An interesting change with regard to the Victoria Cross was announced on August 7, 1918, when it was stated that the King had approved of the colour of the riband being in future the same for all services, the red riband of the Army Victoria Cross being universal for the Navy, Army and Royal Air Force. This change meant the abolition of the blue riband which had been used for the Navy since the decoration was instituted in 1856.

Much curiosity had been shown from time to time concerning cases which were known as "mystery V.C.'s" but it was not until the fourth anniversary of the war that any definite explanation of a "mystery" was given; then it was made public by the First Lord of the Admiralty, Sir Eric Geddes, in addressing Allied officers and men at the Palace Theatre, London, on Sunday evening, August 4, 1918. He told, for the first time, the tale of Q 50, one of the mystery ships, or decoys, which represented one of the oldest ruses of war adapted to modern warfare. Such a vessel might be an ordinary old "wind-jammer," collier or tramp; but she was something more, and how much more was revealed by the First Lord's stirring story. A Q ship looked like a merchantman, but with the touch of a button she changed to "a veritable man-of-war." Q 50 was an old collier, and sailed with sealed orders which read:—"Submarines are sinking British and American ships in such and such a position. Proceed there forthwith." On a summer morning the old collier was in the Atlantic when, at about eleven o'clock, a submarine was seen. The Q 50 began to run away, but the running was slow progress, as her greatest speed was only eight knots. Her fires were stoked and smoke belched from her funnel. She was slowed down to seven and then to six knots; and a two-and-a-half pounder gun was fired. The Q boat was overhauled by the submarine and shells burst on her decks, killing and wounding men. The old collier held grimly on, signalling that a submarine was following and shelling her, and that the crew were about to abandon the ship, and asking for help. The message was taken in by the submarine's signaller. An hour and a half passed and the submarine was getting well within range when a "panic" boat's crew—"a very undisciplined-looking lot"—left the ship, one sailor taking with him a parrot in a cage. A shell from the submarine struck the steamer's poop and blew one of the guns and the gun's crew into the air at a time when the submarine had only to proceed another 100 yards and three of the guns of the Q 50 would have been trained on her at 400 yards range. When it was disclosed that the old collier was

a fighting ship the captain signalled to a man-of-war which had answered his first call for help and was waiting below the horizon, to keep away, for the action was not ended. Torpedo after torpedo was fired by the submarine. To allay the suspicions of the Germans—the First Lord revealed the identity of the "enemy"—the captain of the Q boat signalled to abandon ship and some of the men jumped overboard; but he, with "an officer or two and the picked gun's crew" still remained hidden, and blew off steam to make the submarine's crew think that the boiler had been holed. The submarine, completely deceived, came up. "Then shell after shell was fired at her, and she went down, her end being hastened by the fire from the warship which had come up." The fight did not end till about 4 p.m., having lasted five hours.

The day after these details were published it was stated in the Press that the officer who had handled the Q 50 with such success was Captain Gordon Campbell, and that it was for this particular exploit that he was awarded the Victoria Cross. The only statement made when the Cross was gazetted on April 21, 1917, was that it had been granted "in recognition of his conspicuous gallantry, consummate coolness and skill in command of one of H.M. ships in action."* Captain Campbell was a son of Colonel Campbell, C.B., late Royal Artillery, who stated to an interviewer that four men under Captain Campbell's command had also won the Cross. One of these men apparently was Petty-Officer Ernest Pitcher.

The honour of being the first recipients of the Cross to be gazetted in the fifth year of the war fell to Australians, four of whom were included in a list announced on August 17. There had not been previously a list composed solely of soldiers from Australia, and this circumstance in itself was rightly a matter of pride to the people of that country, whose sons had fought so nobly and whose valiant quartette had performed wondrous deeds. Two corporals, a lance-corporal and a driver made the four, so that the list was essentially one for the men, apart from the higher ranks who had done so well. The acts for which these Crosses were awarded were on the grand scale of personal courage; but they were far more than that, for they were accompanied by the initiative and resource without which individual bravery could be shown in vain. By their willingness to give life these heroes of the Cross so often saved it, and it was to the lasting pride of Corporal Philip Davey, M.M., that he had it put on record that he saved his platoon from annihilation. How well that high praise was won the official story told. There was a daylight operation against an enemy position, and Davey's platoon advanced 200 yards. Part

SEC.-LIEUT. J. S. YOULL,
Northumberland Fusiliers (left), shows his Cross to a friend.

of the hostile line was captured, and whilst the platoon was consolidating the enemy, under cover of a hedge, pushed a machine-gun forward and opened fire from close range. This weapon inflicted heavy casualties and hampered the platoon's work. In the face of a fierce point-blank fire the corporal, alone, moved forward and with hand grenades attacked the gun, putting half the crew out of action. When he had used up all the available grenades Davey

* Vol. XII., p. 186.

returned to the original jumping-off trench and secured a further supply; then he re-attacked the gun, the crew of which had been reinforced. The odds were hopelessly against the corporal, but the very audacity of his fresh assault proved in his favour, for he killed the crew, eight in all, and captured the gun. So far he had been splendidly successful, but he did not rest; he mounted the gun in the new post, and used it in repelling a determined counter-attack, in which he was severely wounded. "By his determination Corporal Davey saved the platoon from annihilation, and made it possible to consolidate and hold a position of vital importance to the success of the whole operation."

[*Swaine.*

CAPT. GORDON CAMPBELL, R.N.

Not less brilliant and successful was the work of Corporal Walter Ernest Brown, D.C.M., when he was with an advanced party from his battalion which was going into the line in relief. During the night the company to which he was attached captured a small system of enemy trench, the occupants of which were, early on the following morning, greatly inconvenienced by persistent sniping from an enemy strong post about 70 yards away. Cpl. Brown heard that it had been decided to rush this post, and on his own initiative he "crept out along the shallow trench" and made a dash towards the post. He was forced to take cover owing to machine-gun fire which was opened on him from another trench; but later he again dashed forward and reached his objective. Then the corporal repeated an act which had been so often credited to our soldiers—he stood at the door of a dug-out and with a Mills grenade in his hand he called on the occupants to surrender. One of the enemy rushed out, and in a scuffle which followed Brown felled him with his fist. This essentially British performance brought into being "loud cries of '*Kamerad*,'" after which affectionate greeting an officer and 11 other ranks appeared, to be conducted back to our line as prisoners by the corporal. Brown seems to have shown more compassion for his captives than their own countrymen displayed, for the enemy meanwhile from other positions brought heavy machine-gun fire to bear upon the party.

The case of Lce.-Cpl. Thomas Leslie Axford, M.M., showed what happened when a boxed-up band had not the opportunity to raise the cry of "*Kamerad*," or, when uttered, a British fighter was too wary to trust it—an instance was reported of a German who, while shouting "*Kamerad!*" and pretending to surrender by holding up his hands, was murderously working a machine-gun by means of mechanism attached to his foot. The barrage having lifted and the infantry advance begun Axford's platoon managed to reach the first enemy defences through gaps which had been cut in the wire. The adjoining platoon being delayed in uncut wire, hostile machine-guns got into action and caused many casualties, including the company commander. Instantly Axford, "with great initiative and magnificent courage," dashed to the flank, threw his bombs amongst the machine-gun crews, jumped into the trench and charged with his bayonet. This was a truly terrific exploit, for, unaided, the lance-corporal killed 10 of the enemy and took six prisoners; he also "threw the machine-guns over the parapet," and called out to the delayed platoon to come on. He then rejoined his own platoon and fought with it during the rest of the operations.

Driver Henry Dalziel "turned what would have been a severe check into a splendid success" His particular bravery was shown when in action with a Lewis gun section. Dalziel's company met with determined resistance from "a strong point which was strongly

garrisoned," manned by numerous machine-guns. This point was undamaged by our artillery fire and was als. protected by strong wire entanglements. Our advance was held up and many casualties were caused by a heavy concentration of machine-gun fire. The driver's Lewis gun, however, came into action and silenced enemy guns in one direction. An enemy gun opened fire from another direction, but Dalziel dashed at it, and with his revolver killed or captured the entire crew and gun, and allowed our advance to continue. He was severely wounded in the hand; but he carried on and shared in the capture of the final objective. Twice he went over open ground under heavy artillery and machine-gun fire, to secure ammunition, and though he suffered from considerable loss of blood he filled magazines and served his gun until he was severely wounded through the head.

These non-commissioned officers and the driver were members of the Australian Imperial Force. Their Crosses made a notable cluster, not only because of the exclusive list they formed, but also because each exploit was so closely connected with the capture of machine-guns. At this time a map of the front had been

CORPORAL PHILIP DAVEY, A.I.F.

very recently captured from the Germans, and whenever the Australians were known to be holding a sector the Germans had labelled it—as well they might—"storm troops."

The Cross for a Royal Naval Reserve officer—Lieutenant Harold Auten, D.S.C.—was announced from the Admiralty on September 14 in a list of honours conferred "for services in action with enemy submarines." Beyond this general statement no details were given, so that the public had no means whatever of judging of the nature of the gallant lieutenant's deed or deeds.

Two days later—on September 16—three Victoria Crosses were announced from the War Office, and a very gratifying feature of these

LANCE-CORPL. T. L. AXFORD, A.I.F.

records was the identification, in two instances at any rate, of the enemy, who was frankly revealed as German. Apparently this temporary illumination was an official indiscretion; at any rate, no further light was thrown upon the identity of the "enemy" in the awards of Crosses which immediately succeeded these announcements, and the established incomprehensible method of obscurity was followed in referring to opponents. Two of these awards were posthumous—to Corporal Joseph Kaeble, Quebec Regiment, and Sergeant John Meikle, M.M., Seaforth Highlanders (Nitshill). Kaeble's conduct was exceptionally brave and afforded another glorious example of that high spirit which some officers and men had the power in a remarkable degree of infusing into others. Kaeble was in charge of a Lewis gun section in the front line of trenches, on which a strong hostile raid was attempted. During an intense bombardment he remained at the parapet with his Lewis gun shouldered ready for action, the field of fire being very short. When the barrage lifted on the front line, about 50 Germans at once advanced towards his post. The whole of the corporal's section except one had become casualties, but he jumped over the parapet, and holding his Lewis gun at the hip, he emptied one magazine after another into the advancing Germans. Several times he was wounded by fragments of shells and bombs,

but he continued firing with such coolness and resolution that he entirely blocked the enemy. Ceaselessly firing, he was at last mortally wounded and fell backwards into the trench; but even while lying on his back in the trench he fired his last cartridges over the parapet "at the retreating Germans." So far Corporal Joseph Kaeble had acted nobly, and he was to

LIEUT. HAROLD AUTEN, R.N.R.

crown his work with splendour. He was losing consciousness, he knew that the hand of death was upon him, yet, summoning the last of his unconquered spirit, he managed to exclaim to the wounded who were lying near him, "Keep it up, boys! Don't let them get through! We must stop them!" His heroic exhortation proved successful, and the complete repulse of the German attack at this point was due to his "remarkable personal bravery and self-sacrifice." The corporal died of his wounds shortly afterwards.

Sergeant John Meikle showed uncommon bravery. His company had been held up by machine-gun fire, but he rushed single-handed into a machine-gun nest, emptied his revolver into the crews of the two guns and put the rest out of action "with a heavy stick." Then, standing up, "he waved his comrades on." Another hostile machine-gun very soon afterwards checked progress and threatened the success of the company on the right. Most of his platoon had become casualties, but the Highlander seized a fallen comrade's rifle and bayonet and rushed forward against the gun crew. His bravery enabled two other men who followed him to put this weapon out of action, but the brave sergeant himself was killed almost on the gun position.

Lieutenant Albert Borella, M.M., A.I.F., the third of these recipients, won his Cross when fighting against largely superior numbers of Germans. Whilst leading his platoon with the first wave he marked a machine-gun firing through our barrage, whereupon he ran out ahead of his men into the barrage, shot two German machine-gunners with his revolver and captured the gun. The lieutenant then led his party, which was reduced to ten men, with two Lewis guns, against a very strongly held trench. Still using his revolver, and later a rifle, he caused many casualties, his leading and example resulting in the garrison being quickly shot or captured. This so far was a fine achievement, but Borella bettered it by bombing two large dug-outs and taking 30 prisoners. For the time being the officer was left, undoubtedly victorious; but the Germans resolved that he should not rest in peace, and made two counter-attacks in strong force. The second time they outnumbered his platoon by no fewer than ten to one; but their desperate efforts were in vain, and the Germans were repulsed with very heavy loss.

The great part which oversea troops were taking in the amazingly successful British military operations at this period was shown by the awards of nine Crosses which were gazetted on September 27. Of these decorations seven were for Canadians; one went to the Australian Imperial Force, and one to the New Zealand Force. This group of nine was remarkable for the fact that in each case the recipient had distinguished himself in action against enemy machine-guns and had shown

swiftness and resistlessness of action which justified the description of them as "rushers." Official and other reports had clearly indicated the intense nature of the machine-gun fire which our troops had encountered in their victorious advances against the enemy, particularly on the Western front, and the details given in the *Gazette* gave emphatic proof of

LIEUT. A. BORELLA, A.I.F.

these reports. They showed also that certain regiments had won uncommon fame, for three of the members of the group belonged to the Quebec Regiment and three to the Manitoba Regiment. Four of the awards were posthumous, these being:—Lieut. James Edward Tait, M.C., Manitoba Regt., Lieut. John Brillant, M.C., Quebec Regt., Pte. John Bernard Croak, Quebec Regt., and Sergt. Richard Charles Travis, D.C.M., M.M., Otago Regt., N.Z.F.

In each of these cases there was an exhibition of the most conspicuous bravery and devotion to duty. Tait's gallant advance had been checked by intense machine-gun fire; but he rallied his company and led it forward, under a hail of bullets, "with consummate skill and dash." Heavy casualties, however, continued to be caused by a concealed machine-gun. Seeing this, the lieutenant took a rifle and bayonet, and dashing forward alone, he killed the hostile gunner, while his men, inspired by his example, rushed the position so impetuously that they captured no fewer than twelve machine-guns, with 20 prisoners. This "valorous action" by the officer cleared the way for his battalion to advance. Subsequently the enemy, under intense artillery bombardment, counter-attacked our positions and Tait was mortally wounded by a shell; yet until death came he never ceased to guide and help his men.

The same unconquerable spirit and endurance possessed Lieutenant Brillant, who, for two days, during an advance of twelve miles, showed outstanding devotion to duty when in charge of a company which he led in attack. On the first day he rushed a machine-gun, personally killing two of the crew. In this dangerous task he was wounded, but refused to leave his command. At a later period of the day he organized two platoons and rushed straight for a machine-gun nest, having personally reconnoitred the ground. It was a bold dash against a strong position, but it succeeded fully, and 150 prisoners and 15 guns were captured. Brillant himself killed five of the enemy. For the second time he was wounded, but having had the wound dressed immediately, he again refused to leave his company. Later, seeing a field gun firing on his men over open sights, he unhesitatingly organized and led a "rushing" party towards the gun. The peril of this undertaking may be judged from the fact that he managed to progress about 600 yards, then he was once more wounded, this

SERGT. JOHN MEIKLE,
Late Seaforth Highlanders.

time seriously. Still, for 200 yards more, he continued to advance, nor did he stop until he fell unconscious from exhaustion and loss of blood.

It was also in attack that Private Croak distinguished himself. He bombed and silenced a machine-gun nest which he had encountered when he had become separated from his section

RIFLE AND BAYONET: THE SEAFORTHS' STAND.

and he took the gun and the crew prisoners. Soon afterwards he was severely wounded, but, like Tait, he refused to desist. When the private had rejoined his platoon a very strong point, containing several machine-guns, was encountered. Croak, because of his wound, had every excuse for remaining behind, but his splendid courage impelled him to dash forward alone. His example was like a flash of fire to a powder-train, and the rest of his platoon instantly followed him "in a brilliant charge." Croak was the first to reach the trench-line, and into this he led his resistless men, capturing three machine-guns and bayoneting or taking the entire garrison. This fine soldier was again wounded, so severely that he died.

Sergeant Travis by winning the D.C.M. and the M.M. had shown the heroic stuff of which

he was made, and further brave deeds were to give him lasting remembrance. His exploit was attended by other hazardous circumstances than machine-gunning. During "surprise" operations it was necessary to destroy an impassable wire block; and the sergeant, scorning danger, volunteered for the duty. "Before zero hour, in broad daylight," and close to enemy posts, he crawled out and destroyed the block with bombs, the attacking parties being thus enabled to pass through. The success of the whole operation, however, was endangered when, a few minutes later, a bombing party on the right was held up by two enemy machine-guns. Travis, seeing this, rushed the position, killed the crew and seized the guns. Then came one of those counter-attacks which the foe were not always ready to attempt—an officer and three men rushed at the sergeant from a bend in the trench and tried to retake the guns. They hurried to their

CAPT. JAMES E. TAIT,
late Manitoba Regiment.

fate, for Travis, single-handed, killed them all, so allowing the bombing party, "on which much depended," to advance. Sergeant Travis had done splendid work—indeed, the success of the operation was almost entirely due to him. Twenty-four hours later, when going from post to post, encouraging men who were under a most intense bombardment, he was killed.

Such were the deeds of oversea fighters who did not live to get the great honour which was awarded to them, but whose names were to be inscribed on rolls of fame for far-off lands. The acts of those who lived to get the Cross were not less notable for courage and resource. These five recipients were: Sergt. Raphael Louis Zengel, M.M., Saskatchewan Regt.; Cpl. Herman James Good, Quebec Regt.; Cpl. Frederick George Coppins, Manitoba Regt.; Acting

LIEUT. JOHN BRILLANT,
Late Quebec Regiment.

Cpl. Alexander Brereton, Manitoba Regt.; and Sergt. Percy Clyde Statton, M.M., A.I.F.

Sergeant Zengel distinguished himself by rushing forward some 200 yards ahead of his platoon, tackling a machine-gun which was firing at close range into the advancing line, killing the officer and operator and dispersing the crew. He added to this success later when the battalion was held up by very heavy machine-gun fire. He showed much tactical skill, and directed his fire with destructive effect. An enemy shell rendered him unconscious for a few minutes, but immediately on recovering consciousness he continued to direct harassing fire on the enemy. The sergeant's work throughout was described as excellent, and the attack was successfully ended largely because of his disregard of danger and the confidence he inspired in all ranks.

Three machine-guns figured in Corporal Herman Good's great exploit, but they were subsidiary to the heavy weapons against which he fearlessly threw himself with complete success. The official details did no more than outline the achievement, yet not much ingenuity was needed to visualize a performance of rare merit. In attack the corporal's company was held up by heavy fire from the three light weapons, which were seriously delaying

the advance. Good, realizing the gravity of the situation, dashed forward alone, killing several of the garrison and capturing the remainder. So far the machine-gun episode; the rest of this non-commissioned officer's work was so uncommon that it must be told in the official words, and left at that: "Later on Corporal Good, while alone, encountered a

CORPORAL F. G. COPPINS,
Manitoba Regiment.

battery of 5.9-inch guns, which were in action at the time. Collecting three men of his section, he charged the battery under point-blank fire and captured the entire crews of three guns."

The details of the awards to Corporal Coppins and Corporal Brereton so closely resembled each other that there could be no doubt that these two members of the Manitoba Regiment were concerned in the same heroic undertaking. They found themselves in desperate case; but so far from shirking danger they courted it, with the happy result that they were the means of saving many lives and of materially helping military objectives. During an attack Corporal Coppins's platoon unexpectedly came under the fire of numerous machine-guns. The platoon could neither advance nor retire, nor was any cover available, and it was clear that unless the hostile guns were silenced instantly the platoon would be annihilated. The corporal unhesitatingly, and acting on his own initiative, called on four men to follow him. They readily obeyed, and all rushed straight for the machine-guns, from which an intense fire came. The four men were killed and the corporal was wounded, but despite his wounds he reached the guns alone and killed the operator of the first gun and three of the crew, and made prisoners of four others, who surrendered. In spite of his wound Corporal Coppins continued with his platoon to the final objective, and did not leave the line until it had been made secure and he had been ordered to do so. This, like Corporal Brereton's, was an uncommonly fine exploit, one of many of which some idea had been given in the accounts of Canadian dash and endurance in the main theatre of the war.

Cpl. Brereton was suddenly confronted with annihilation when a line of hostile machine-guns opened fire on his platoon, which was in an exposed position and no cover was available. The corporal grasped the position instantly and, on his own initiative, alone, sprang forward and reached one of the hostile machine-gun posts. He shot the man who was operating the weapon and bayoneted the next man who attempted to operate it, whereupon nine others surrendered to him. By his swift and gallant conduct the corporal undoubtedly saved many of his comrades' lives, and he inspired his platoon to charge and capture the five remaining posts.

[Elliott & Fry.
CAPT. (Acting Lt.-Col.) F. C. ROBERTS,
Worcestershire Regiment *

"A magnificent example of quick decision" was also set by Sgt. Statton in action under heavy machine-gun fire. In broad daylight, armed only with a revolver, he rushed four enemy machine-gun posts in succession. He disposed of two of them and killed five of the enemy. The remaining two posts retired "and

* See Vol. XVI. p. 388. The portrait there given is that of Captain Roberts, M.C., Essex Regiment.

THE VINDICTIVE, PHOTOGRAPHED ON HER RETURN FROM ZEEBRUGGE, SHOWING THE IMPROVISED "BROWS" USED FOR LANDING ON THE MOLE.

were wiped out by Lewis-gun fire." Later in the evening the sergeant added to his renown by going out again, under heavy machine-gun fire, and bringing in two badly wounded men.

These heroic acts by Canadians were announced at a time when the Allies were winning overwhelming victories, triumphs in which the part played by the Canadians was shown in a sentence by *The Times* Special Correspondent at the War Correspondents' Headquarters, who, writing on October 1, said that since August 8 the Canadians, with the two Home divisions fighting with them, had taken 27,000 German prisoners and 450 guns, "which is truly a magnificent performance."

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The following is a list of the recipients of the Victoria Cross in the period between June 3, 1918 (the King's 53rd birthday) and September 30, 1918:—

AUTEN, Lieut. Harold, D.S.C., R.N.R.

AXFORD, Lce.-Cpl. Thomas Leslie, M.M., A.I.F.

BAMFORD, Capt. Edward, D.S.O., R.M.L.I.

BEAL, Temp. Sec.-Lieut. Ernest Frederick, late Yorkshire Regiment.

BEESLEY, Pte. Wm., Rifle Brigade (Nuneaton).

BORELLA, Lieut. Albert, M.M., A.I.F.

BOURKE, Lieut.-Comdr. Ronald, D.S.O., R.N.V.R.

BRERETON, Pte. (Acting Cpl.) Alexander, Manitoba Regiment.

BRILLANT, Lieut. John, M.C., late Quebec Regiment.

BROWN, Cpl. Walter Ernest, D.C.M., A.I.F.

CARPENTER, Comdr. (Acting Capt.) Alfred Francis Blakeney, R.N.

COLLIN, Sec. Lieut. Joseph Henry, late Royal Lancaster Regiment.

COPPINS, Cpl. Fredk. Geo., Manitoba Regiment.

CROAK, Pte. John Bernard, late Quebec Regiment.

CROSS, Pte. (Acting Lce.-Cpl.) Arthur Henry, M.G. Corps (Camberwell).

CROWE, Sec.-Lieut. John, Worcestershire Regiment.

CRUICKSHANK, Pte. Robt. Edward, London Regiment (Harringay).

CRUTCHLEY, Lieut. Victor Alexander Chas., D.S.C., R.N.

DALZIEL, Driver Henry, A.I.F.

DAVEY, Cpl. Philip, M.M., A.I.F.

DEAN, Lieut. Percy Thompson, R.N.V.R. (Motor Launch 282).

DOUGALL, Lieut. (Acting Capt.) Eric Stuart, M.C., late R.F.A. (S.R.).

DRUMMOND, Lieut.-Cmdr. Geoffrey Heneage, D.S.O., R.N.V.R.

FINCH, Sgt. Norman Augustus, R.M.A.

GOOD, Cpl. Herman James, Quebec Regiment.

GREGG, Sgt. Wm., D.C.M., M.M., Rifle Brigade (Derby).

GRIBBLE, Lieut. (Temp. Capt.) Julian Royds, Royal Warwickshire Regiment.

GROGAN, Maj. and Bt. Lieut.-Col. (Temp. Brig.-Gen.) George Wm. St. George, C.M.G., D.S.O., Worcestershire Regiment.

HALLIWELL, Lce.-Cpl. Joel, Lancashire Fusiliers (Middleton).

HARDY, Rev. Theodore Bayley, D.S.O., M.C., Temp. C.F., 4th Class, A. Chapl. Dept., attached Lincolnshire Regiment.

HERRING, Temp. Sec.-Lieut. Alfred Cecil, Northamptonshire Regiment.

HEWITSON, Lce.-Cpl. James, Royal Lancaster Regiment (Coniston).

HUDSON, Capt. (Temp. Lieut.-Col.) Chas. Edward, D.S.O., M.C., Notts and Derbyshire Regiment.

JAMES, Temp. Capt. Manley Angell, M.C., Gloucestershire Regiment.

KAEBLE, Cpl. Joseph, late Quebec Regiment.

KARANBAHADUR RANA, Rifleman, Gurkha Rifles.

KNOX, Temp. Sec. Lieut. Cecil Leonard, R.E.

MCKEAN, Lieut. Geo. Burdon, Canadian Infantry.

MCKENZIE, Able Seaman Albert Edward (Ch.).

MEIKLE, Sgt. John, M.M., late Seaforth Highlanders (Nitshill).

MOUNTAIN, Sgt. Albert, West Yorkshire Regiment (Leeds).

POULTER, Pte. Arthur, West Riding Regiment (Wortley, Leeds).

RUTHVEN, Sgt. William, A.I F.

SADLIER, Lieut. Clifford Wm. King, A.I.F.

SANDFORD, Lieut. Richard Douglas, R.N.

SCHOFIELD, Temp. Sec.-Lieut. John, late Lancashire Fusiliers.

STATTON, Sgt. Percy Clyde, M.M., A.I.F.

STORKEY, Lieut. Percy Valentine, A.I.F.

TAIT, Lieut. James Edward, M.C., late Manitoba Regiment.

TRAVIS, Sgt. Richard Chas., D.C.M., M.M., late Otago Regiment, N.Z.F.

WOODALL, Cpl. (Lce.-Sgt.) Joseph Edward, Rifle Brigade (Salford).

YOULL, Temp. Sec.-Lieut. John Scott, Northumberland Fusiliers.

YOUNG, Pte. Thomas, Durham Light Infantry (High Spen, co. Durham).

ZENGEL, Sgt. Raphael Louis, M.M., Saskatchewan Regiment.

CHAPTER CCLXI.

WOMEN'S WORK (III.): WAR SERVICES.

FORMATION OF WOMEN'S ARMIES—THE W.A.A.C.'S—WORK IN FRANCE—THE QUEEN COMMANDANT-IN-CHIEF—THE "WRENS"—WOMEN'S ROYAL AIR FORCE—THE LAND ARMY—MEDICAL WOMEN—ENDELL STREET MILITARY HOSPITAL—SCOTTISH WOMEN'S HOSPITALS—DR. ELSIE INGLIS—FIRST AID NURSING YEOMANRY—GREEN CROSS SOCIETY—WOMEN POLICE—DILUTION OF LABOUR—"EQUAL PAY FOR EQUAL WORK"—WOMEN'S ROLL OF HONOUR—WOMEN'S SUFFRAGE.

THE end of the fourth year of the war found thousands of women who had shown their efficiency as voluntary workers, in the paid ranks. Voluntary work had been gradually brought to a minimum—the dilettante and the "passenger" who took up space and appropriated kudos for work done by others had been eliminated almost wholly, and work of every kind done by women, whether paid or unpaid, had been brought to the professional level.

In two earlier chapters (Vol. IV., Chapters LXXI. and LXXIX.) dealing with women's work up to the autumn of 1915, the help given by women in a vast sphere of activities, from the mobilization of the nursing services to the dilution of many industries, formerly almost wholly in the hands of men, was dealt with, and also the great scope of voluntary societies, covering the relief work done for the Belgian refugees, and for the women thrown out of work in the early days of the war in England, before industries re-adjusted themselves on a war basis. As the war went on many changes took place. Women strengthened their position in munitions in the most astounding way, so that it seemed that there was hardly any process in the making of guns, ammunition, ships or aircraft that they had not conquered, and they stood by the armies in the field in a manner unequalled in the history of any other nation. But they did more. Early in 1917 they were actually invited to take their place overseas with the armies to replace as far as possible the men in civilian occupations at the bases, and during some parts of the fighting they were very near the firing line. They suffered casualties during air raids on the base camps, and as far as women could, shared the sufferings and discomforts of the armies in the field. A little later the Admiralty followed the example of the War Office, and invited the assistance of women for shore services, and following this the Royal Air Force also formed a women's service. The Women's Land Army with these doughty competitors, on a more homely basis, but with no more comforts to offer its recruits, came into being in the same memorable year, 1917, and helped in the war by increasing the food production of the country and conquering the submarine menace. The war

was described as a young man's war; it had in 1917 also become a young woman's war. As many of the men fighting in 1917 and 1918 had been at school or college when it broke out in August, 1914, so many of the young women officering or working in the various women's services in 1917 and 1918 had been at school or college in August, 1914;

LADY DESPATCH DRIVER.

they gave their first years of apprenticeship to their country for the security of the future. The present chapter deals mainly with the work these young women were called upon to do.

The beginning of the Women's Army Auxiliary Corps was typical of English ways. Authorities are slow to convince, but once they are convinced their enthusiasm is whole-hearted, and their conversion has something fanatic about it in its sincerity.

In May, 1915, the colonel in command of the vast Ordnance Department at one of the bases—a man who controlled an organization that was the "emporium" of the Army, supplying such diverse commodities as howitzers and brooms, cycles and boots, and with advanced branches near the activities of the different armies, first startled the War Office by suggesting that women could be used in many departments of his work. Shortly after a commanding officer of Engineers diffidently and independently suggested that women might be employed in the several branches of Signals. And also at or about the same time the Women's Legion was started as a voluntary organization to supply motor-drivers and cooks in great numbers for the home commands.

The first idea of the Women's Legion was not to dilute the Army with women, but to send women cooks to take the place of the army cooks who had had to go to France with the armies and whose successors were men without any training, who wasted and spoiled a large amount of the food in their charge. They were accepted for service by the Quartermaster-General on July 22, 1915. Part of the work of the Legion was also the training of soldier cooks, who could, in their turn, go to France and cook for the Army. Mrs. Burleigh Leach (in 1918 Controller-in-Chief of Q.M.A.A.C.), who ultimately became head of the cookery section, started work in the Legion as a cook in a convalescent hospital. The military cookery section of the Legion was the first body to be officially recognized and accepted by the War Office under the scheme for the employment of women in the Army.

During the time of trial, Ordnance and Signals grew and grew as the Army increased, and made insatiable demands for skilled men for the

[Official photograph.

LADY AMBULANCE DRIVERS IN FRANCE.

bases, and it became evident that permanently unfit men sent down from the front could not entirely replace Category A men who were needed for the line. The office work at the bases had to be done and efficiently done: the men in the great mileage of camps had to be fed and efficiently fed, and yet it seemed an anomaly that fit men should be clerking and signalling, doing warehouse work and cooking under conditions varying little save in matters of discipline from civil life. Ordnance and Signals kept up their cry for women, and then

Official photograph.

A ROUTE MARCH OF W.A.A.C.'s IN FRANCE.

the formation of a Women's Army was suddenly and unexpectedly announced on February 27, 1917, and the men at the head of the important work of Ordnance and Signals were appropriately pleased.

The first scheme for the Women's Army Auxiliary Corps was issued as an Army Council Instruction, dated July 7, 1917. It was announced that the administration would be in the hands of the Adjutant-General's Department of the War Office, and "A.G. XI." was the official designation of the W.A.A.C. The object of the corps was stated in the first A.C.I. to be "to effect substitution of women for soldiers in certain employments throughout units, formations, and offices administered by the Army Council (other than the War Office hospitals and those administered by the Finance Member) at home and at the bases and on the Lines of Communication Overseas. The scale of substitution was four women clerks to three soldier clerks; four technical women for the R.F.C. and A.S.C. Motor Transport as equivalent to three technical soldiers. The main categories of substitution were arranged as follows:

Clerks, librarians, accountants, typists, shorthand typists.

Cooks, wine waitresses, waitresses, butlers, housemaids, laundresses, vegetable women, pantrywomen, and other domestic work.

Motor transport service.

Storehouse women, checkers, packers, and unskilled labour.

Tailors, sewers, messengers, shoemakers, bakers.

Telephone and postal services.

Miscellaneous services.

Technical women, who will be employed with the R.F.C. and A.S.C. motor transport.

The first substitution took place overseas, and the cooks from the Women's Legion had the honour of being the first W.A.A.C.'s (as they presently were called) in France. Women were gradually introduced into command employments, garrison employments, regimental employments (officers' messes, etc.), R.F.C. technical and other employments, A.S.C. regimental and technical employments. The military cookery section of the Women's Legion was ordered to be gradually absorbed into the W.A.A.C. At the time of the formation of the W.A.A.C. they had provided no less than 6,000 cooks and waitresses in 200 camps in the United Kingdom. When the first overseas demands were satisfied, W.A.A.C.'s were drafted to the home commands.

The first appointments of women authorized by the Army Council were those of Mrs. Chalmers Watson, M.D. (a sister of Sir Eric and Sir Auckland Geddes) to be Chief Con-

[Official photograph.

W.A.A.C. (AFTERWARDS QUEEN MARY'S ARMY AUXILIARY CORPS) IN CAMP IN FRANCE.

Tending the vegetable garden.

troller, and Mrs. Gwynne-Vaughan, who had been a lecturer on botany at Birkbeck College, to be Chief Controller Overseas. A year later Mrs. Chalmers Watson resigned owing to family claims on her time, and she was succeeded by Mrs. Burleigh Leach (Controller of Inspection since the absorption of the Women's Legion), whose appointment was renamed Controller-in-Chief, three Chief Controllers being appointed under her. Mrs. Gwynne-Vaughan was succeeded by Miss Davy as Overseas Controller, when she was made Commandant of the Women's Royal Air Force in September, 1918.

Besides the Controllers for Home Commands and Overseas, a Chief Controller was appointed in August, 1918, for the W.A.A.C.'s Pals Battalion with the American Expeditionary Force. There were also area controllers for home and overseas, an administrative and inspection staff at the headquarters of each command, and administrators in charge of hostels and camps. The uniform was khaki, and the officers were recognized according to their rank by badges of roses and fleurs-de-lys. The Controller-in-Chief had a double rose, an area controller a fleur-de-lys, a unit administrator three roses. The rankers or workers had forewomen N.C.O.'s, who wore a distinguishing white collar. The different services and sections were denoted by a coloured inset in the shoulder strap.

The billeting difficulty was the greatest that met the authorities in France, for, with the best will in the world, women cannot be fitted into the same space as men. Gradually around the bases women's camps sprang up, with orderly streets of Nissen huts, divided into sleeping quarters, dining rooms, recreation rooms, and sick bay. The women slept on Army beds, with the Army biscuit mattresses, and had an issue each of four Army blankets. In towns they were quartered in houses. Their food was at first the same as the men's issue, but after the first six or eight months it was found that very few women needed the men's allowance of meat, and that they preferred a smaller ration with an allowance for other stores. Their messing was excellent, and though in the great dining huts they had their food under unhomelike conditions they took it all as their part of the war.

From the first opportunity given them

(at home and overseas) the women proved their worth. In spite of the strangeness of their conditions the overseas W.A.A.C.'s did wonders. When our men performed feats that had never been equalled in any war in history, wading to their objective, fighting in the terrible early autumn of 1917 waist-high in the mud, Signals, the whispering gallery of the great armies with its many khaki women wearing the blue and white brassard of their service, stood staunchly by them. From the General-in-Chief of the great armies came fine praise of their work at wire and telephone, in the official words "equal to that done by the men whom they relieved." From the officers commanding the fighting units came equal praise for the women in the great camp kitchens who rose long before dawn to feed the men going up the line, knowing

MISS HORNIBLOW,
Chief Controller Q.M.A.A.C.

that there is "little between a man's best and worst but a platter of food."

The women were absorbed into the Army in a wonderful spirit of equality and fraternity. In many offices sergeants and corporals in the early days might have been seen initiating the rank and file of the women into intricacies of Army documents and records; at every camp and hostel a kindly welcome was extended by commanding officers to the administrators of the different women's camps, and they were given every facility to understand the working of a discipline to which they would have to instruct their women to conform.

Here is an interesting extract from the orders of the day on the arrival of some hundreds of women into a vast camp. It is

[Hoppé.

MRS. BURLEIGH LEACH,
Controller-in-Chief of the Q.M.A.A.C.

typical of the spirit of the officers and men who hardly needed its fatherly admonition:

The Officer Commanding Base Depôt wishes to draw the attention of all ranks to the following points in connexion with the Domestic Section of the Women's Auxiliary Army, which is employed in this Depôt:—

These women have not come out for the sake of money, as their pay is that of a private soldier. In nearly every case they have lost someone dear to them in this war, and they are out here to try and do their best to make things more comfortable for the men in regard to their food.

It therefore is up to all ranks to make their lot an easy and not a hard one during their stay in France. If any man should so forget himself as to use bad language or at any time to be rude to them, it is up to any of his comrades standing by to shut him up and see that he does not repeat this offence.

To the older men I would say: Treat them as you would treat your own daughters. To the younger men: Treat them as you would your own sisters.

Commanding Base Depôt.

The W.A.A.C.'s on their side had in their routine orders, "They shall be courteous to all, familiar to none." And though women are far harder to discipline than men, and were inclined to think that many Army orders

[Official photograph.

WOMEN CARPENTERS IN FRANCE.

were invented to vex them, on the whole they shaped excellently in adapting themselves to unaccustomed rules.

There were W.A.A.C.'s working at G.H.Q. They were very highly trained secretaries and clerks, and when they arrived at G.H.Q. the general paraded them. He reminded them that it was the first time women had been employed directly on work behind the lines of an army in the field materially to help to the success of that army, and that they should be very proud of being pioneers. He also gave them a lecture on ordnance, as their work lay mainly with correspondence concerning guns and ammunition, and was of a very confidential nature. The men whom they had relieved had worked often till one and two a.m., day after day, and became very stale; with the women, more being available, a day full of long breaks was mapped out.

In all the ordnance bases the W.A.A.C.'s were employed on highly technical and important work. At one great base W.A.A.C.'s decoded telegrams relating to demands for many grades of guns from the front lines. Others were busy on highly technical dissection work dealing with "indents" from every part of the Army for everything it is possible for an army to want, from shaving brushes to heavy guns, and filing the latter according to the gun sections attached to the armies in the field. Ordnance dealt with everything except food, forage, and R.A.M.C. stores.

At the first great signal station at a base in a famous French city, a commendation of the work of the women signallers was received soon after their arrival from the general commanding one of the armies in the field, to which this base signal was attached. They were volunteers from the P.O. at home, by whom they were lent for the period of the war, and, being a disciplined unit and all of them women of very high standard, they were immensely popular with everyone. The women completely changed duty every fortnight, and there was also a change of duty daily. Women on night signal work were segregated in their camps in separate huts, so that they might sleep undisturbed during the day. Every base had its own telephone system, and the women at the switch had a busy time. They were encouraged to learn French, and had interpreters to give them lessons.

There were a great number of women engaged in stationery departments. Skilled women were also at work in Army printing offices. They were not engaged as printers,

only as binders, sewers, folders, and collaters. Other women worked in a great motor repair shop, painting signs for motors and also the small parts.

At every base the commanding officers gave the administrators facilities to learn military routine and military phraseology. It was noticed that officers spoke of the women who had authority similar to their own always as "officers," but officially they could only write of them as "administrators" —an ugly civilian word. C.O.'s might speak to a forewoman as "sergeant," but could not officially write of her in this way. Yet the base standing orders and the routine orders of the base commandant were, translated into the feminine, rigidly observed by the administrators and workers of the W.A.A.C., in addition to others peculiar to themselves on matters of internal discipline and administration. Every day crowds of the W.A.A.C. surrounded the camp notice board to see the latest regulations, as it was stated in standing orders that "ignorance of published orders will not be admitted as an excuse for their non-observance." In the canteens run by the Navy and Army Canteens Board overseas the girls were able to buy many little extras, and supplies of underclothing, which were not an army issue, were sold to them at cost price.

The method of recruiting women was gradually developed; in 1918 it was done through the home commands as well as the employment exchanges throughout the country. The W.A.A.C.'s had many training centres for their different kinds of work; their headquarters were at 49, Grosvenor Street, London, and the chief depôt for receiving recruits was at the Connaught Club, Edgware Road. Other depôt hostels were secured at Folkestone, Aldershot, Bristol, Edinburgh, Oldham, and Gateshead-on-Tyne. There was training available for unskilled women (who in the early days of the W.A.A.C.'s were drafted into the domestic section) as turners, electricians, fitters, store-keepers, machinists, upholsterers and other technical work. At the Jewish Girls' Club, Tottenham Court Road, there was a training centre for clerks. At Bostall Heath there was perhaps the finest women's camp in the home commands. There administrators were trained, and among them, according to the principle Mrs. Burleigh Leach instituted on her appointment, were many forewomen who had shown themselves worthy of higher posts. As there was a school for women Army cooks there too, and

W.A.A.C. CAMP NOTICE BOARD.

also a depôt for recruits, the cadet administrators had every opportunity of realising the nature of their future work.

Being the most important of the Women's Services many rumours founded on isolated cases were spread about the W.A.A.C.'s in France. The Minister of Labour in March, 1918, sent a commission to France to make searching enquiries, and the result was a triumphant vindication of the good name of the corps. In the course of the report of the commission it was stated :—

We think that the regulations as regarding the social relations between W.A.A.C.'s and soldiers are sensible and broad-minded. As regards the general question of the relations between the soldiers and the W.A.A.C.'s, we are glad to record the constant tributes which reached us as to the good influence of the women on the men. This point of view is confirmed by information given us in more than one centre to the effect that scandalous tales regarding the W.A.A.C. had emanated from some of the low-class *estaminets* (public-houses), the custom of which among British soldiers had suffered considerably owing to the better type of companionship now available for the men. Women are allowed a pass to entertain or to be entertained by soldiers at recognized places of amusement provided by the Y.W.C.A., Y.M.C.A., or Church Army. To evening parties they go in a group, and are accompanied by a forewoman. They may similarly invite men to entertainments organized in their own camps and hostels. French places of amusement, cafés [illegible] are placed out of bounds except in the case of few recognized teashops. Girls may not be absent from any meal at their camp or hostel without a pass, every meal being in effect a roll-call. Final roll-call is held at 8.30 p.m., and every girl absent at that hour must be furnished with a pass. Thanks to these measures the possible dangers which might encompass the work of a girl in the zone of the armies were very largely mitigated.

We are of opinion that the present position of the corps in France compares very favourably with obvious perils run by girls in ordinary employment at the present time in many offices, large towns, and munition centres in England, where neither health nor morality is so well safeguarded.

A recommendation of the Commission referred to the formation of women patrols—a scheme which was actually under consideration at the time at Headquarters, and afterwards came to fruition.

A COOKERY LESSON IN THE W.A.A.C. CAMP AT RIPON.

On April 9, 1918, the Secretary of State for War announced that the Queen had been graciously pleased to assume the position and title of Commandant-in-Chief of the W.A.A.C., which would in future be called Queen Mary's Army Auxiliary Corps. This followed close upon an official announcement from the Army Council of the excellent reports of the behaviour of members of the Corps during the heavy fighting in France, in the course of which it stated :

"One party who had been employed at an Army school within the area of operations were offered transport to convey them to a safer locality farther back. They refused to avail themselves of it on the ground that it

A W.A.A.C. DRIVER, IN WINTER OUTFIT, TAKING HER ORDERS FOR THE DAY.

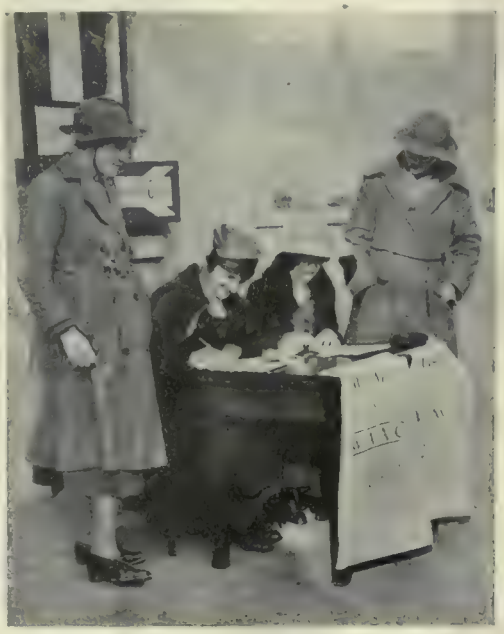
would probably be wanted for something more important, and they marched 15 miles back to the place to which they had been ordered. Before leaving, and after all the students at the school had gone, they remained there in a dangerous position feeding relays of tired and hungry officers and men, and assisting in every way possible before they were compelled to leave the place."

"All reports," it was added, "bear out the fact that the W.A.A.C. during the crisis have more than justified their existence, and have well maintained the credit of their sex and of the Army to which they belong."

The Women's Royal Naval Service (known as the "Wrens") came into being on November 23, 1917, on which day Dame Katharine Furse, G.B.E., was appointed Director of the new auxiliary service to be administered by her under the superintendence of the Second Sea Lord; it included almost everything that naval men do, save manning a warship.

The "Wrens" were perhaps the most carefully selected, being the smallest body of women, and almost as silent as the Navy in the work they did. The ideals of the Senior Service were very dear to this new body of naval women, and they adopted them very thoroughly as their own. The great textbook of the Navy, "The King's Regulations and Admiralty Instructions for the Government of His Majesty's Naval Service," were studied, and the intimate relations of officers and men necessary on board ship were adopted as the right spirit by these shore women. "Zeal" and "alacrity," qualities which the Navy expects from all its ratings, were urged upon the "Wrens," and from the different stations where they were employed it would seem that the traditions of the Service were admirably sustained. As in the Navy midshipmen and cadets rank below gunners, boatswains and other warrant officers, so in the "Wrens" it often happened that the better educated women had to learn their jobs from those of less education but more practical working experience.

The idea of this Service was to facilitate the gradual substitution of women for naval ranks and ratings of certain branches in various establishments administered by the Admiralty. These branches included all the Royal Navy, Royal Marines, Royal Naval Reserve, Royal Naval Volunteer Reserve, Royal Naval Division in the United Kingdom, and the Royal Naval Air Service. In the latter branch, since the formation of the Royal Air Force and the Women's Royal Air Force (W.R.A.F.'s),



SIGNING ON IN TRAFALGAR SQUARE "FOR THE DURATION OF THE WAR."

"Wrens" posted to air stations formerly naval would be in due course transferred to the newest service.

To assist the Director, whose rank was equivalent to that of a Rear-Admiral, Miss Edith Crowdy, O.B.E., was appointed Deputy Director on the same date. On November 26, 1917, a temporary Headquarters Office was

opened at Central Buildings, Westminster, and the Chief Administrative Officers (Assistant Directors) were appointed, by degrees, in charge of the five departments of Administration, Personnel, Inspection and Training, Recruiting, and Medical. The rapid development of the Service necessitated the transfer of the Head-

[Hoppé.

DAME KATHERINE FURSE, G.B.E.,
Director of the W.R.N.S.

quarters establishment to 15 Gt. Stanhope Street on January 7, 1918, and on January 26 the first training course for officers, W.R.N.S., was opened, at first in London with the assistance of Q.M.A.A.C. lecturers, until it was possible, on February 11, to transfer the probationary officers to the regular training arranged at the R.N. Depôt, Crystal Palace.

On January 18 began the appointment of senior officers to naval bases and stations. The general organization of the W.R.N.S. was on a territorial basis of areas, termed divisions, and administered by divisional directors or deputy divisional directors, coinciding to some extent with the principal naval bases. The seven major divisions, under divisional directors, were Portsmouth, Chatham, Devonport, London, Scotland, Ireland, and the Mediterranean. Lesser divisions under deputy divisional directors were those of Cardiff, Harwich and the Humber, while independent officers bearing the rank of principal were in charge of the companies in the Liverpool and Tynemouth districts, and of the groups of air stations (formerly naval) on the East Coast, North-East Coast and at Cranwell. The naval stations or companies included in the above numbered some 200, while about 30 air stations (formerly R.N.A.S.) were staffed with ranks and ratings, W.R.N.S.

The *personnel* of the W.R.N.S. consisted of officers, subordinate officers and women. These last might be promoted to the rating of leader, section leader and chief section leader, equivalent for purposes of discipline to the naval ratings of leading seaman, petty officer and chief petty officer. There were two branches of officers in the Service—(1) administrative; (2) non-administrative; the badges for their respective ranks being the same, but non-administrative

Hoppé.

MISS EDITH CROWDY, O.B.E.,
Deputy Director of the W.R.N.S.

officers were not given rank higher than that of deputy principal. The number of administrative officers late in 1918 was 123; of non-administrative officers, 163. These last replaced naval officers for decoding, secretarial and certain technical duties. The total number of ratings at work was close on five thousand, divided into eight categories of employment.

The period of enrolment for W.R.N.S. was for twelve months or duration of the war, and was similar to that of Q.M.A.A.C. and W.R.A.F. The training course for adminis-

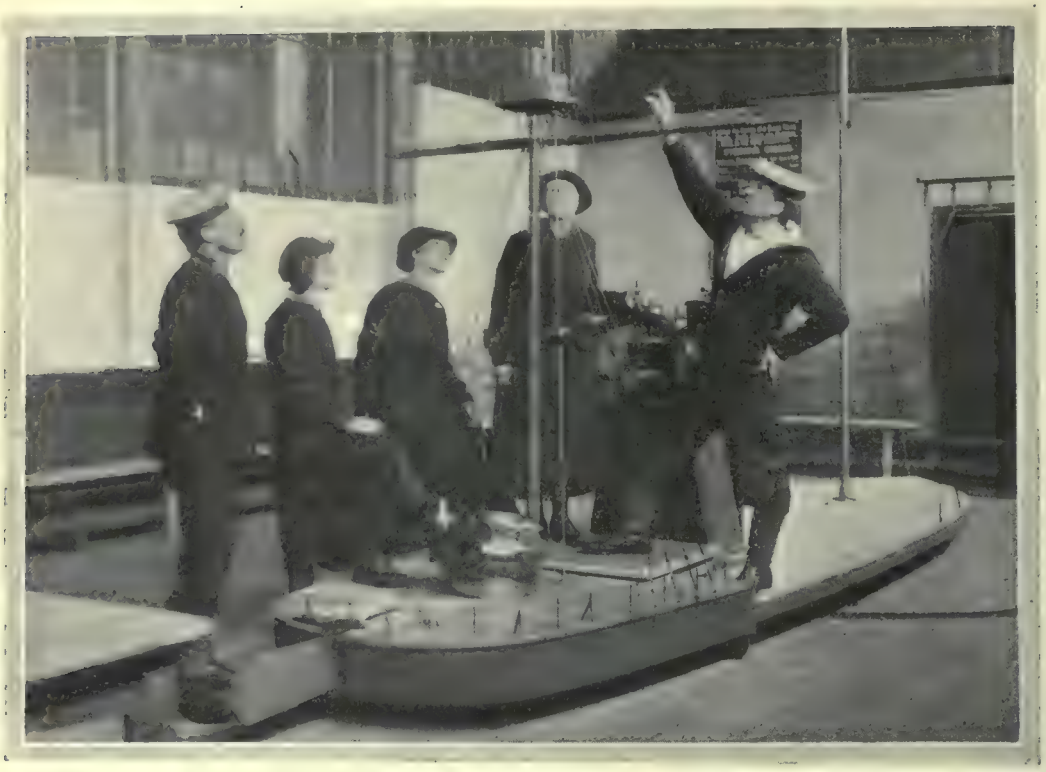
trative officers covered a period of four weeks, some thirty to fifty being entered in each session at the W.R.N.S. College, Crystal Palace. The training included physical drill, lectures on naval tradition, etiquette and organization, and on the organization of the W.R.N.S., with practical work on the paper side of the latter. An examination was set, but the final result of the training depended rather on character and general fitness than on any paper test. Non-administrative officers were trained in decoding and deciphering at the Signal School, Portsmouth, while other technical trainings of a confidential nature were given to those required to replace naval officers in special posts.

As regards trainings for ratings—who might belong to mobile or immobile branches—for the clerical branch, decoding clerks were trained at the Signal School, Devonport, in a three-weeks course, senior writers in a four-weeks course, to improve their shorthand and typing, at the Crystal Palace; typists received a six-weeks course at the depot hostel. In the domestic category there were four-weeks trainings for cooks at Portsmouth, Devonport, Chatham and London; and for stewards, three to four weeks at Portsmouth, Devonport, Chatham and London; and motor drivers, who had already trained before enrolment, had a two-weeks special coaching in London at the W.R.N.S. Motor School. Telephonists received a three-weeks training; wireless telegraphists a 3½-months course; while there were other technical trainings of a confidential nature.

The mobile women were accommodated in hostels, in the charge of W.R.N.S. officers, or, where a hostel was not available, in "approved lodgings" recommended by the Ministry of Labour. The Department of Inspection was charged with the duty of visiting and reporting on all buildings or huts suggested for hostel accommodation, and submitting the details of such schemes to the Admiralty for approval. Late in 1918 50 hostels were in being, exclusive of domestic quarters in naval establishments provided for members, W.R.N.S. The great central drafting hostel in London was in five houses in Courtfield Road, South Kensington. Here mobile women were accommodated while awaiting draft or on transfer from one division or station to another. Women attending training courses in London lived here, while the hostel was actually a training centre for certain courses.

[Official photograph.

DAME KATHERINE FURSE WITH COMMANDER SIR R. W. BULKELEY, R.N.R., Inspecting Officers of the W.R.N.S. drafted for Service.



"WRENS" AT THE CRYSTAL PALACE: A LESSON IN RIGGING.

Official Naval photograph.

W.R.N.S. STOREKEEPERS "KITTING UP" SOME NEW NAVAL RECRUITS.

The approved uniform of the "Wrens" was, of course, navy in colour, and attractive and becoming, and was said to be the result of many consultations between the Director and the Admiralty. The officers with their three-cornered hats and their smart coats and skirts with their rank badges, and the "ratings" with their jean collars on their navy coat frock were distinctive figures among uniformed women.

The badges of category worn by the ratings on the right arm, midway between shoulder and elbow, were:

A. Clerical and Accountant branch	Crossed Quills.
B. Household branch	Shells.
C. Garage workers	Wheel.
D. General unskilled	Crossed Keys.
E. Postal branch	Letter (envelope).
F. Miscellaneous	Star.
G. Technical	Crossed Hammers.
H. Signal branch	Arrows & Lightning.

The Medical Assistant Director, working under the Admiralty Medical Department, was responsible for the well-being from health point of view of all members of the service. The health of the women was supervised on the stations by the Naval or R.A.F. Medical Officer in Charge. V.A.D. Nursing Members were attached to sick bays in all large hostels, and attended members, both mobile and immobile, at dressing stations, which were provided in centres where the work might involve special fatigue or risk of injury. A convalescent home for officers was provided at Checkendon Court, in the Chilterns.

The members of the W.R.N.S., both ranks and ratings, in and passing through London, shared in the benefits of the Women's Active Services Club, under the patronage of the Prime Minister (run on the lines of the Union Jack Club), which was opened on September 24, 1918, at 48 and 49 Eaton Square.

[*Official photograph.*

"EYES RIGHT" FOR THE DEPUTY DIRECTOR.

The Women's Royal Air Force, of which Mrs. Gwynne-Vaughan, O.B.E., was the commandant in autumn, 1918 (having succeeded Hon. Violet Douglas Pennant, who had succeeded Lady Gertrude Crawford, the first commandant), was the latest of the women's services, coming into being automatically and in the same way as did the Royal Air Force, in the spring of 1918. In October, 1918, they numbered about 20,000, partly drafts from the existing corps and partly new recruits. The members of the Q.M.A.A.C. attached to the Royal Flying Corps, on the amalgamation of the naval

and military flying corps, were invited to transfer to the new service under practically the same conditions as the organizations in which they were, and the same applied to those working at air stations under the Women's Royal Naval Service. If they had not wished to do so they could have been reposted to branches of the Navy and Army. The privilege of wearing the badge of the R.A.F. was given to the new force.

The W.R.A.F.'s, or "Penguins," as they were called, did much the same routine replacement work as the W.A.A.C.'s and "Wrens," riders, motor drivers, workers on practically every form of motor repair (the remaking of wrecked aeroplane engines was part of the overseas W.R.A.F. work), aeroplane riggers, tracers, fabric workers, colorists, photographers, storehouse women, tailors, shoemakers and others. The domestic section included cooks and waitresses. At a meeting held at the Mansion House, October, 1918, in connexion with the Women's Active Services Club, it was stated that the women were given opportunities of performing every kind of service that men in the Royal Air Force did save

[*Official Naval photograph.*

"WRENS" AT PHYSICAL DRILL.

with the addition that they were also working on the assembling and repair of aeroplanes and balloons and light aircraft work that was suitable for women to handle. They had a large immobile section—*i.e.*, women liable for service in their own locality only; these received an allowance in lieu of food and lodging in addition to the fixed rate of pay. The mobile members were required to go to any part of the United Kingdom or overseas. Junior officers were chosen from the ranks. The new commandant acknowledged a special preference for women with a love of open-air life. The W.R.A.F.'s numbered among their *personnel* despatch that of acting as pilot. It was also pointed out that training in this "wing" of the forces offered many opportunities to women for after-the-war work.

The Land Army was from the beginning a very remarkable movement, and perhaps more than any of the other services tested the patriotism of its members. They were the worst paid of all the women who took up war work under the Government: they had, in many instances, the roughest conditions and much loneliness on isolated farms, and they, by the nature of their work, were the least under the

control of the authorities. Yet they were second to no other women's service in their zeal for the honour of their Army, and they adopted in their isolated farms a self-discipline that enabled them to uphold the honour of their corps and to break down the former prejudice against them. Their comradeship and their goodwill, drawn as they were from every social class, was of untold value to the country. That they themselves received where they gave is evident from the way the young stock on the farms came to them, their success with the cows they milked, the pigs they reared, even the selfish fowls they fed, and, most of all, with the land they cleaned and sowed with our future food.

Though in the early stages of the dilution of the land with women's labour they were not received with any enthusiasm, after a couple of years' trial cheers greeted the mention of women on the land at meetings of farmers all over the country. Their former reluctance was

OFFICER AND PRIVATE OF THE W.R.A.F.

not all prejudice: they thought women would not "stick" the rough and dirty work, but they did so, and the villages slowest of all to welcome an intrusion took to the Land Lasses because of that great quality of sincerity that breaks down all barriers.

At the outbreak of the war the Women's Farm and Garden Union (formed in 1899), which previously had as its objects to train and advise women who wished to take up farming and gardening as a profession, extended the scope of its work to train as large a number of women as possible for war work on the land.

[*Ministry of Information.*

MRS. GWYNNE-VAUGHAN, C.B.E., D.Sc., Commandant of the Women's Royal Air Force.

From the painting by Major Sir W. Orpen, A.R.A.

By the autumn of 1915 it had become apparent that the need of agriculture for a very large number of women to replace men could no longer be met by the efforts of voluntary organizations, and the Government began to take the matter in hand. This did not, however, lead to the cessation of voluntary effort. It was found that there was still scope for voluntary associations to find agricultural work for women who, for various reasons, did not see their way to enrolling under the Government scheme.

The National Land Service Corps came into existence in February, 1916, with the object of "speeding up the recruiting of all classes of women for work on the land in order to ensure the maintenance of the home-grown food supply." It worked along much the same lines as the older organization and in co-operation with it. It became the agent of a Government Department—the Board of Agriculture—for the organization of the supply of temporary war-workers for such seasonal jobs as harvesting, fruit-picking, and potato-lifting, and for this and other work received a grant from the Board.

RECRUITING MARCH OF LAND LASSES.

The summary of Government effort apart from voluntary effort is as follows :—

In 1915, preliminary steps were taken by the Board of Agriculture, in consultation with the Labour Exchanges of the Board of Trade and the County War Agricultural Committees, to appoint Women's Agricultural Committees in every county. A few such committees had been formed the year before. These committees were to consider how best to meet the existing shortage of agricultural labour by training and encouraging women to take the place of men.

In January, 1916, Lord Selborne, then Minister of Agriculture, appointed Miss Meriel Talbot as the first woman inspector of the Board. In December of that year the Presidents of the Board of Trade and the Board of Agriculture agreed to the transfer of the superintendence of the Women's War Agricultural Committees from the Board of Trade to the Board of Agriculture, and at the same time authorized Miss Talbot to appoint a staff of Women Inspectors of the Board of Agriculture. Grants had been made by the Board to the Local Education Authorities for the training of women in milking and other practical farm work.

It was decided in 1916 to issue to any woman or girl over school-leaving age who had actually worked on the land for not less than 30 days, or 240 hours, an armlet of green baize, bearing a red crown, and, further, that any woman accepted for farm work by the Women's County Committees should receive a certificate bearing the Royal Arms emblazoned in colours.

In January, 1917, Mr. Prothero, President of the Board of Agriculture, decided to form a Women's Branch, to be staffed by women, and to extend the work in connexion with the employment and training of women already begun the year before. A paid woman officer was appointed in each county. In March, 1917, the Women's Branch became a division of the newly formed Food Production Department under the Board of Agriculture. The need for supplementing women's labour, already enrolled, by a mobile whole-time force was met in the same month by the formation of the Women's Land Army, in consultation with the Ministry of Labour and the Ministry of National Service. It was decided that the women should be recruited by the Ministry of National Service, enrolled at the Employment Exchanges and selected, trained and placed by the Women's War Agricultural Committees of the Women's Branch. The Government offered to women over 18 who would enrol as members of the Women's Land Army till the end of the war :

To train them for a month free.

To equip them with the necessary clothes

To maintain them in depots between terms of training and employment, and during terms of unemployment.

To secure for them a minimum wage of 18s

To arrange for a possibility of promotion within the Land Army, from being ordinary farm hands to being skilled milkers, thatchers, tractor drivers, Group Leaders, Instructresses, etc.

To promise that every effort will be made to secure for women, who are specially registered, subsequent facilities for settlement on the land, either at home or in the Dominions Overseas.

The preliminary outfit issued consisted of two overalls, one pair of breeches, one pair boots, leggings, clogs, and one hat. At the end of six months a second outfit was given. It was decided that the second outfit should be issued two months after the woman's enrolment, and that two entire outfits should be issued in one year. In August, 1917, a mackintosh was added to the items already given, and in October a jersey was also added.

The training of women, hitherto confined to centres organized by the Local Education Authorities, was now extended to centres at private farms, and with individual farmers. When the Department decided on the 1918 programme, women were called to learn tractor ploughing. The first school was started in September, 1917. Group Leaders were appointed in April, 1917, to develop in the first place the employment of local labour, and later in connexion also with the Land Army.

After the closing of the Women's Section of the National Service Department, recruiting for the Land Army was undertaken, in consultation with the Employment Exchanges, by the Women's Branch, and in the spring of 1918 women recruiting officers were appointed. The minimum wage was increased to 20s. a week, and to 22s. after passing an efficiency test. These tests were arranged at the end of each period of training in order that those responsible for placing might have some idea of the qualifications of the students. The first efficiency test was held in October, 1917.

In January of 1918 the Land Army was divided into three sections:

(1) Agricultural and Afforestation, under the Board of Agriculture;

(2) Timber Cutting, under the Timber Supply Department;

(3) Forage Work, under the Forage Committee of the War Office;

the women in the three sections to be interchangeable. The conditions of enrolment were also modified, and women were allowed to enrol in the Land Army for a period of six months or one year, instead of for the duration of the war.

In October, 1917, the Board of Agriculture placed the promotion of Women's Institutes, inaugurated by the Agricultural Organization Society, in the hands of the Women's Branch.

MISS TALBOT

Director of Women's branch, Food Production Dept., addressing the workers at an inspection by Princess Mary, seen in the background.

When this was first taken over there were 137 institutes in existence; a year later there were 697. In July, 1917, welfare officers to supervise the increased numbers of the Land Army were appointed.

In October, 1918, the arrangement with the Forage Committee of the War Office was brought to an end, and the Land Army included two sections only—agricultural and timber cutting.

A return made in the autumn of 1918 is of considerable interest as showing the variety of work done. An analysis of 12,639 women of the Land Army out of a total of 15,500 showed

that these were employed in the following ways :

Milkers	5,734	Forewomen	129
Ploughwomen ..	260	Bailiffs	3
Carters	635	Threshers	101
Thatchers	84	Field Workers ..	3,971
Shepherds	21	Market Gardeners ..	515
Tractor Drivers, F.P.D.	256	Private Gardeners ..	260
Tractor Drivers, with private farms ..	37	Other Branches ..	653
			12,639

The number of women working on the land was 300,000 in 1918. The majority were village

THATCHING A CORN STACK AT GREAT BIDLAKE FARM.

women who formerly thought work on the land degrading, but who under the influence of the gay-hearted town-girl in breeches and smock, joined, through the village registrars, in the most wonderful way. These village women who used to consider the most draggled old skirt and battered boots the only modest wear for work on the land, appeared at farming contests in corduroys and smocks and seemed exceedingly proud of their kit.

The Women's Forestry Corps did valuable work in felling timber, sawing it into lengths for pit-props, trench poles, barbed wire poles, railway sleepers and other national purposes. At Wendover an open-air training camp for measurers was started, and there the girls learned to girth the trees immediately after felling, finding their cubic contents; they marked where they were to be sawn, superintended the stacking of logs by the railside, and the loading by train on to the tractors to take them to the station. There were forewomen planters in the woodmen's school at Lydney. They subsequently worked on private or Crown estates in beautiful surroundings, though their actual pay was meagre.

For training at the motor-tractor school at Oxted, girls with a certain knowledge of motors were given first preference, and they were given instruction in the field operations of tractor ploughing, harrowing and skill in driving, so that in their travels through the country they might not be a danger to others. From Oxted about 30 women proceeded every month, and were to the Land Army what the Air Force was to the B.E.F.—its scouts and light cavalry, chosen for their skill, judgment and initiative. Women were trained as farm bailiffs at a college at Wye, and for this training were selected from the rank and file of Land Lasses. While market gardening had the official blessing ordinary flower cultivation had not, and only the demand for scientific market-gardening was satisfied from the Department. Women farriers were to be found in Yorkshire, Sussex and Dorset; they got their training under local blacksmiths, who mended agricultural machinery, and they only did work connected with agriculture.

Several farms were run entirely by women. Among them was the Great Bidlake Farm which was taken over under D.O.R.A. by the Devon Men's Executive on October 26, 1917, and was handed over to the Devon Women's War Agricultural Committee on November 2 for experimental purposes.

Women thatchers and threshers were added to the Land Army in the summer of 1918. Thatching is one of the most important and highly skilled forms of harvest work, but skilled men thatchers being few and the harvest a bumper one, farms accepted the inevitable and ended by accepting the women with goodwill. In the West Riding, Gloucester, Cornwall, Monmouth, Essex, and in other counties the women were trained. They were also thatching flax in Somerset, Yorkshire, and Peterborough, where the flax was put in stacks until it was "deseeded";

FORESTRY: MEASURING UP TIMBER.

about 1,000 women were organized for threshing corn in Kent, the usual procedure being four lasses and a forewoman to each threshing machine and with a settled village as headquarters working the neighbourhood.

The growth of clubs for women on war work was a feature of the later days of war. It was obvious that a soldier needs a homelike halting place; it also became obvious that nurses going to and from overseas needed one, and soon the same need arose for Waacs, Wrens and Penguins, and for Land Lasses. The nurses had their club in Ebury Street, the three women's services in Eaton Square, and the Land Lasses (the Women's Farm and Garden Club) at 51 Upper Baker Street. The Y.W.C.A. had supplied a number of recreation huts for munition workers and for the W.A.A.C. in France.

The use of medical women by the War Office was considerably delayed, and it was not until their usefulness had been tested by almost every Allied nation and appreciated to the utmost by them that the recognition of their possible value to their own country was realized. In August, 1916, Sir Alfred Keogh extended his invitation to Dr. Garrett Anderson and Miss Flora Murray to take charge of Endell Street Military Hospital. Two years later 186 medical women had been employed. Of this number it was stated by the War Office in the autumn of 1918 that 55 were serving in hospitals at home, 69 at stations overseas, 10 had been transferred for service to Queen Mary's Army Auxiliary Corps, one died, one was serving with the Serbian Relief Fund Commission, and 50 had resigned.

Attached to the R.A.M.C. was a corps of medical women belonging to the *personnel* of Queen Mary's Army Auxiliary Corps, and numbering between 40 and 50, of whom Dr. Turnbull was Medical Controller-in-Chief. Many of these women had given up hospital work and private work to join this State service. They served on the Selection Boards and examined the women recruits in the same way that the medical men examined the soldiers. To a home command, amounting to about 1,000 women, a W.A.A.C. doctor was attached, who was responsible for their health, and who saw that the accommodation allotted to them was proper and suitable. In the small home commands where there were only a few hundred women the W.A.A.C.'s reported sick to the R.A.M.C. doctor attached to the neighbouring men's camp. In the big receiving depots and hostels from which the girls proceeded overseas, there was one woman doctor in charge, and sometimes two, to inoculate them against

typhoid. Dr. Laura Sandeman was the medical controller for overseas, and there was a woman doctor attached to each of the big bases and also to the American "Pals Battalion." The W.R.N.S. had their own women doctors —not many, as they were a small service—

MISS FLORA MURRAY (left) AND DR. LOUISE GARRETT ANDERSON (right).
Leaving Buckingham Palace after receiving decorations.

and so had the W.R.A.F. (Women's Royal Air Force).

Though women doctors serving in military hospitals were temporarily attached R.A.M.C., wore the same R.A.M.C. badge, did the same work and drew the same pay as men, they were not admitted to the same privileges. They were refused commissions, honorary rank or local rank, badges of rank, service rate of income tax and gratuities. In the military hospital at Endell Street (570 beds) all the officers were women. They had to deal not only with sick and wounded soldiers, but with deserters, absentees, malingerers, prisoners and men with self-inflicted injuries, and had to issue instructions to all such cases reporting at the hospital, in the same way as officers did. They also had to give evidence at courts martial, courts of enquiry and inquests. A strong demand was made for badges of rank which are recognized by the troops as a mark of authority.

The story of the Scottish Women's Hospitals (of which some account was given in earlier chapters) is in the main the story of Dr. Elsie Inglis, one of the greatest heroines of the war, who died on her return from Russia in November, 1917. Though she had a large practice in Edinburgh she initiated the Scottish Women's Hospitals which were organized by the National Union of Women's Suffrage Societies in 1914. The War Office at first refused the help of these hospitals on the ground that the needs of the British Army were fully met by established organization. The hospitals were, however, offered to and gratefully accepted by France and Serbia For France they organized a hospital of 300 beds at Abbaye de Royaumont, a first-line hospital of 300 beds at Villers Cotterets, and in Salonica, with the Armée d'Orient, a hospital of 500 beds and an orthopædic department.

In April, 1915, Dr. Inglis left for Serbia to act as Commissioner to the Scottish Women's Hospitals established there. The typhus scourge was at its worst. She took with her a splendid group of colleagues of the Scottish Women's Hospitals. The typhus epidemic carried off one-third of the Serbian Army Medical Corps, and the situation was desperate. About that time Lady Paget was struggling against fearful odds in Skoplje, in the south of Serbia. Dr. Elsie Inglis set to work in the more central districts of Serbia, organizing four big hospital units where the need was greatest. Her grasp of detail was wonderful, and she had indomitable resolution. Yet she

DR. ELSIE INGLIS,
Founder of the Scottish Women's Hospitals.

was above all a woman. Never will the Serbians forget her cheerful and kindly greetings and her complete composure in the very worst circumstances.

Thanks to the devotion and sacrifice of a band of British and French and American relief

A WARD IN ENDELL STREET HOSPITAL,
Run exclusively by women.

THE DISPENSARY.

workers, the typhus epidemic was mastered. But tragedy deepened when the united hordes of Germans, Austrians, Hungarians, and Bulgarians assaulted an already shattered nation. Perhaps it was then that Dr. Inglis's most heroic work was done. At Lazarevatz her hospital was overcrowded. Later, by Kragujevatz, the same state of things existed; wounded soldiers were lying in the streets. She gave up her own beds and rugs, and she and her colleagues passed whole nights in alleviating the sufferings of the men. Next, she was found at Kraljevo, where, declining to leave her Serbian wounded, she was captured with her staff at Krushevatz by the enemy. After enduring many discomforts as prisoners of war, she and her staff were finally released and sent home. She at once volunteered with a Scottish Women's unit for service in Mesopotamia, but again War Office obstruction frustrated her plan. Giving herself no rest, she worked on for Serbia in this country, and took a leading part in the organization of the Kossovo Day celebrations, in June, 1916. The equipping of a Southern Slav Volunteer Corps for the Dobrudja front was the occasion of yet another act of sacrifice on her part. She set out for the Dobrudja, and was attached, at her own request, to the Southern Slav Division that fought alongside the Russian troops. She went through the Rumanian retreat with the Southern Slav Division, and remained with it till her return from Russia. The insanitary Dobrudja came after a long period of strain. Her work, however, was still as spirited and enthusiastic as ever, and she returned to England with new plans for service which her death left for others to accomplish.

Women in uniform in the years 1917 and 1918 had begun to excite no comment; in earlier days they were looked at with a little amusement, but gradually as stories of their bravery came back from the front and their name

COOKS OF THE SCOTTISH WOMEN'S HOSPITALS IN THE DOBRUDJA.

appeared in dispatches the comfortable citizens decided that there was nothing particularly extraordinary about a woman appearing in uniform.

The motor-section of the Women's Legion was one of the most notable of these uniformed bodies. The commandant, Miss Christobel Ellis, was, immediately after its formation in January, 1916, authorized to collect experienced women motor drivers to work in connection with the army. Many hundreds of drivers and vulcanizers, instrument repairers and assemblers, viewers, and other forms of technical labour, were supplied to different commands. In February, 1917, this section of the Legion was incorporated in the W.A.A.C. in the same way that the cookery section had been, and was also permitted to wear the badge of the Legion on the lapel of the coat.

The first actual replacement of British men by British women in France was achieved by the First Aid Nursing Yeomanry, a voluntary organization who were known affectionately as "the Fanys," at Calais, January, 1916, when the first women's motor ambulance convoy for the British was started by them after many previous applications for permission to effect this substitution had been refused.

When the corps, under the command of Miss Franklin, C.-in-C., was commissioned by the B.R.C.S. to act as ambulance drivers and mechanics for the convoying of British wounded in and around Calais, it was the first women's corps to be entrusted with work of this sort in the zone of the British Armies. Subsequently this work increased and extended to a very great extent, and became by far the most important part of the work of the F.A.N.Y. in France. In April, 1918, with the German advance, the size of the unit was increased, and when the other women workers were moved away, the F.A.N.Y. were allowed to remain and were the only women to be officially attached to a British Army Corps in the capacity of ambulance drivers. They worked at the casualty clearing stations, and often had long runs of 100–150 miles.

Previously the F.A.N.Y. had done their principal work for the Belgian Army. They worked in field hospitals, established regimental aid posts, ran convalescent homes, canteens, from October, 1914, up to July, 1916, when they started the first convoy of drivers only four miles behind the firing line. In January, 1917, they opened also a hospital near Reims for French wounded, with a convoy of women ambulance drivers attached to it. Their drivers up to the autumn of 1918 had won nine Military

Medals, three Croix de Guerre, the Croix Civique, and the Order of Leopold II.

Of the smaller uniformed bodies the Women's Reserve Ambulance, known as the Green Cross Society, formed in June, 1915, did very useful work, and from its *personnel* valuable officers were drawn from time to time for the women's State services. Originally formed to supply a trained and disciplined body of women for use in emergency war work, their motor transport section specially distinguished itself in assisting the police during air raids, and the W.R.A. ambulance had the distinction of having been the first to arrive on the scene during the first air raid on London. The motor section also did excellent work in transporting limbless men from railway stations to Roehampton Hospital and in doing transport work for the various hospitals. The women also met the leave trains and acted as guides to bewildered men arriving from the Front. As orderlies they did the most menial work with rare willingness at canteens and at military hospitals. They had also done work overseas.

The Women Police Service, the first State service to be entirely run by women, had its "Peel House" at 6, Eccleston Square, London. There its future members were chosen, taken on probation and trained for work under the supervision of the chief officer, Commandant Damer Dawson. The Women Police Volunteers (started by Miss Nina Boyle, out of which this service developed, after a cleavage amongst its original *personnel*) began work as far back as August, 1914. It was obvious even in these early days that war would upset many of the normal standards of everyday life and that problems would arise with which it would be difficult for the ordinary police to deal. To train themselves was the Police Volunteers first difficulty. An ex-superintendent of police gave them the rudiments of drill, teaching them how to stand, and what to observe when on duty. Sir Leonard Dunning lent them reports of police work and the rest they found out for themselves.

Women Police Volunteers were first appointed at Grantham in 1914, when they cleared up an apparently impossible situation for the military authorities and earned the gratitude of the Provost Marshal and the Chief Constable. The General Commanding the 11th Division, then

GREEN CROSS SOCIETY'S AMBULANCE.

MISS M. DAMER DAWSON, O.B.E.,
Commandant of the Women's Police Force.

stationed a few miles from the town, wrote as follows, when there was some talk of withdrawing the women five months later :—

To the Chief Officer, Women Police.—I understand that there is some idea of removing the two members of the Women Police now stationed here. I trust that this is not the case. The services of the two ladies in question have proved of great value. They have removed sources of trouble to the troops in a manner that the Military Police could not attempt. Moreover, I have no doubt whatever that the work of these two ladies in an official capacity is a great safeguard to the moral welfare of young girls in the town.

(Signed) F. HAMMERSLEY, M.G.,
Commanding 11th Division,
Grantham.

Subsequently they were employed at Hull, Folkestone, Wimbledon, Richmond, and many other places. At Richmond the policewoman was elected to the position of probation officer as the result of her successful work amongst women and girls.

On February 17, 1915, the Women's Police Service was inaugurated by Commandant Damer Dawson. In April, 1916, the Minister of Munitions, acting on the recommendation of the Chief Commissioner of Police, when there was a big increase in the number of women munition workers, asked for women police, whose duties included checking the entry of the women into the factories, searching for contraband, preventing annoyances to the girls in going to and from their work in the workmen's trains. At first the rougher girls resented them, but quickly recognized them as their protectors, and became in some factories so enthusiastic that they expected them to interfere in many matters not originally included in a policewoman's duties. The selection and uniforming of these women was handed over to Commandant Damer Dawson by the Ministry of Munitions. This recognition by the Ministry, which made a grant to headquarters, besides the payment made to the women in the factories, made the service no longer dependent on voluntary contributions.

At their headquarters the policewomen "recruits" went through a course of eight weeks' training in drill, first aid, practical instruction in police duties gained by actual work under a policewoman in the streets, coffee stalls, squares, parks, etc. ; in the study of special Acts relating to women and children, and also in civil and criminal law and in the procedure and rules of evidence in police courts. They had a fine lecture hall and courses of lectures on matters which were of use to them in their work were from time to time given by experts. When they trained the members of the corps worked in three capacities—as volunteers, as semi-official policewomen, and as officially appointed policewomen.

In eight months, out of 500 girls with whom they were allowed to deal, nine-tenths took up honest work and kept to it, the women police standing surety for them. The police authorities invited their help in investigations concerning women, and in some districts domiciliary visiting was regarded by chief constables as being more especially the work of women than men. The keepers of houses used for immoral purposes especially feared them, for the presence of a policewoman outside the house night after night meant that they had to quit the neighbourhood. Often a

policeman handed over the arrest of a woman to a policewoman, and it was one of their duties regularly to attend the police court of the locality in which they worked and to be present during the hearing of cases dealing with women and children.

Most of the women police, like the men, trained in ju-jitsu, which kept them secure from assaults in drunken brawls. Their pay was in some cases higher than a man's, but they did not receive any promise of a pension, and they paid for their own uniform.

The policewoman of Grantham was the first to be sworn in. In Scotland, Commandant Damer Dawson was sworn in by the High Sheriff of Dumfriesshire, who made a little speech, saying what power policewomen could have in the community. Other policewomen were sworn in at Oxford, Reading, Tunbridge Wells and Carlisle. It depended on the chief constable whether a woman was sworn in or not, and though the work of the women was widely recognized, it was not every chief constable who was willing to break down the conservative attitude of police authority generally to give powers of arrest to a woman.

The Women Patrols formed another useful body of women. They were organized by the National Union of Women Workers and received in the summer of 1916 a subsidy from the police funds for carrying on their work in the metropolitan area. They also worked as park-keepers and park-rangers under the Board of Works and the L.C.C. Their work began in 1914 and was almost entirely voluntary. There was a women's police force in Bristol, with a training school, and there were one or two other organizations of women police in different parts of the country.

Sir Nevil Macready, in the autumn of 1918, announced his intention of forming a women's police service to be officially recognized by Scotland Yard.

In March, 1916, an advisory committee, under the chairmanship of Mr. Cecil Harmsworth, was formed to extend the employment of women in industry and to make good the loss of labour caused by the withdrawal of men for the forces. A number of women were invited to sit on this committee, which had to consider the withdrawal of women from non-essential industries into "priority" industries, and to encourage dilution, the idea being to utilize first of all women with industrial training.

LONDON COUNTY COUNCIL AMBULANCE GIRLS EQUIPPED FOR AIR RAIDS.

[Palmer's Shipbuilding Co.

WOMEN WORKERS IN A TYNE SHIPYARD.

At the beginning of 1917 Mr. Neville Chamberlain appointed Mrs. H. J. Tennant director of the Women's Department of National Service, and Miss Violet Markham assistant director. Both of them had been actively engaged on Government schemes connected with the war, and had been members of the Queen's Work for Women Fund. They resigned six months later, and finally the idea of centralizing demand for women's labour and the prevention of any competition for women's service likely to result in competitive recruiting was made definite by passing over all recruiting to the Women's Department of the Labour Exchanges. In many instances where it was impossible to get women for certain necessary forms of work at the terms offered, the Department was able to induce employers to offer bonuses and other advantages to attract women with the necessary qualifications.

The figures for women who had come newly into industry since the war stood at about a million and a half in the autumn of 1918, and this did not include the Women's War Services, the Nursing Services or the voluntary workers, some of whom, as in the notable workshops for orthopædic splints at Chelsea, put in a full day at their chosen task. Roughly speaking there were about 5,000,000 women employed in industry.

In the munition factories, with the aid of improved machinery, women were performing operations which in pre-war days would have called for the skill of a trained engineer. They were making not only shells, grenades, and fuses, but engines, guns, and machine tools. In many cases dilution increased production to an extraordinary degree: there was the case of a firm which, yielding to Government persuasion after two years of opposition, found that the output of complete guns increased from 4 to 60 a month, with an increase in its *personnel* of fewer than 250 unskilled people. In the north-west of England dilution proceeded farther than in any other part of the country: returns from leading works in that area showed from 50 to 90 per cent. of women, the highest percentage being in the National Shell and Projectile factories. In the Lancashire factories there seemed no limit to the work that the women could undertake; it ranged from designing to the bottling of shells under heavy compressed air hammers. Significant of the women's willingness was a notice which had to be put up in large type in a shell shop: "Warning! Anyone starting a machine before the bell has been rung will be instantly

dismissed." The girls were so anxious to go ahead that they had at the beginning of a shift been found starting a machine cutting into steel before the main driving motors were ready for the strain.

The introduction of female labour into the shipyards was one of the most remarkable developments of women's work brought about by the war. In 1918 women were to be found among the riveters, taking the place of boys in heating and conveying the rivets to the men who drove them home. They were working in blacksmiths' forges; they red-leaded iron work, and did part of the paint work. All over a shipyard they might be seen tidying up, shifting scrap iron, carrying balks of timber, pieces of angle iron, and scrap bars. Girls unpacked big cases of machine parts and gear, and frequently unloaded bars of iron from railway wagons at a speed which surprised the onlooker. The wages which women received for all these and many other forms of labour in which men alone used to be employed were double what the men used to be paid before the war.

Women's work in the joiners' shops was particularly valuable, especially in the case of the planing machines, with which they produced a very large output. In the engineers' section of the shipyard also—outside of the marine engine works—women's help was much in demand. They worked various kinds of machines, such as screwing and boring machines; they faced up flanges, oiled and cleaned all machines, and sharpened tools. Experienced girls were very skilful in the manipulation of such powerful machines as those used for cutting angle iron and for keel-bending. They even drove electric cranes and winches, work which demands the greatest steadiness and care, and a large amount of nerve.

Women in industries other than munitions (where they came under the Ministry), in substitution for men, came under the Factory Department of the Home Office, and a very comprehensive idea of the extent to which this replacement had taken place was shown in the Home Office bay, organized by Miss A. M. Anderson, principal lady inspector of factories, at the Exhibition of Women's War Work, held by the Women's Sub-Committee of the Imperial War Museum, October 9 to November 20, 1918, at the Whitechapel Art Galleries. Articles or exhibits made by women included an electro-plate teapot, machine-made lace and lace curtains (which involved the use of

MAKING SHELL FUSES IN A COTTON-SPINNING MACHINE FACTORY.

machinery of a very complicated kind), rubber gloves and ebonite articles, bricks, concrete and silica, children's boots, lamp-blown glass for laboratory purposes, cut glass, cellulose varnish or glass and glaze substitutes (including acetate film-wire substitutes for glass), tiles and bowls and buttons of pottery, brown fireclay ware, copra, fine edible oils, cattle-feeding cake, and many other samples of equal interest. Piano-making, leather tanning and currying, marble masonry, scientific instrument making, malting, oil-seed crushing, work in flour mills, in the manufacture of margarine, sugar and golden syrup, linoleum, soap, hats, bread, dry cleaning and laundry washhouses absorbed a great deal of women's labour. Statistics of women's labour since 1914 showed that, while the clothing trades had decreased by half, the metal trades had multiplied by four, and the chemical trades had more than doubled their former women employees. The number of women employed in the wood and leather trades was about double, and in the rubber trades about three-quarters more These increases included the introduction of women in processes not formerly permitted to them, notably "clicking" in the leather trades.

In ordinary or everyday substitution, apart from dilution, women showed great adaptability. Under the municipalities they had done work in street cleaning, lamp-lighting, and almost every municipality had its women employees and was proud of them.

In the conservation of food and in economy the help given by women was very notable. The National Kitchens up and down the country absorbed trained women, and other women took courses in catering and cookery and were subsequently absorbed in their turn. Sir Robert Carlyle's department at the Ministry of Munitions absorbed also a great number who organized canteens, cooked in them, and acted as storekeepers, and pleased the tastes of the tired men and women who, though they rarely grumbled at their work, often grumbled at their food.

In the King's establishments, as in humbler homes, there was a good deal of substitution, but not as much as would have taken place had State entertainments and the pageantry associated with Royalty not been given up almost entirely for the period of the war. The male members of the King's Households who were

WOMEN'S LAND ARMY: LEARNING MILKING AT ST. AUGUSTINE'S COLLEGE, CANTERBURY.

LADY GARDENERS IN THE ROYAL GARDENS AT FROGMORE.

of military age were amongst the first to join the Colours in the early days of the war, and when conscription was adopted there was very little for the "comb" to do. In the secretarial departments eight lady clerks were employed, five at Buckingham Palace, two at Windsor, and one at Sandringham.

Twelve lady gardeners were employed at Windsor and Sandringham. It was found that in hothouses women's work was even better than that of men in dealing with delicate plants, as their touch is lighter. The same was found with women replacing men on farms, and their success with young animals and valuable stock was specially noteworthy. On the Royal farms the work was arranged so as to make it easier for the women, and the scale at which they were paid was a little higher than that settled by the Norfolk and Sandringham Farmers' Union, but not enough to spoil the market.

When they settled down to a state of war statesmen began to realize that the woman-secretary was as capable and as trustworthy as the man, and had not infrequently beaten him at Oxford or Cambridge Mr. Lloyd George showed the way by appointing Miss Stevenson his private secretary: and Mrs. Lloyd George went a step farther, in spite of the demands on her time and her busy days as the Premier's wife, by doing without a secretary, to save woman-power as the Premier was saving man-power.

In the various State departments and ministries women were brought in in large numbers, and their assistance—particularly in the case of highly educated women—was of great importance. The Treasury, however, was seldom over generous in the matter of remuneration. It was often patriotism rather than pay which produced noteworthy results in Government departments. The work of the censors was perhaps the most interesting. Many spies were brought to book and many submarine perils discovered by the women censors. There were a couple of thousand of them, some with several languages, others with only their own. Many of them had a number of "stars" to their credit, each one of them the record of information they had stopped going through the net. The German Secret Service was dealt many blows by these clever ladies, whose tact was so great that they would not let their friends know where they worked or where they lunched. Their pay was not bad, it was better than a typist's, but

lower than that of a well-paid munition-maker. All the seven days of the week, with a mutual arrangement for time off, these women searched for matter that might be useful to the Admiralty, the War Office, the Foreign Office, and the Contraband Committee, in correspondence and parcels passing in and out of the country. Some of them were made Deputy Assistant Censors, and though they talked less than any other Government officials, they were of priceless service to the State. Rumour had it that the women's mesh was finer than that of the male censors, and that their finds were bigger.

IN AN AEROPLANE FACTORY.

In the autumn of 1918 problems of reconstruction were causing acute anxiety to responsible women, who knew that in many of the diluted industries women would be called upon to give up their jobs to the returning soldier. The greatest danger in all problems of reconstruction seemed to be the thousands of women clerical workers who had been drawn into desk tasks in Government Offices without the taste or the education necessary for real office work. Many of these women had been taken on unnecessarily in Government Offices where officials felt that the larger the floor space occupied by their clerical staff, the more important would be their position. In some cases it was said to have been done to increase the amount of coal allowed. In contrast with this waste of woman power there was a brighter side. In the Food Card Department, where over a thousand girls were employed, there was a splendid educational scheme of early evening school carried on by arrangement with the L.C.C. The spirit of the hour was to enjoy leisure rather than to profit by it, but these lectures and classes were so ably planned that enthusiasm for them became infectious.

Instructional institutions attached to the Ministry of Munitions in various parts of the country numbered about 50, and they, too, though started distinctly with the intention of speeding up munitions, were actually giving technical instruction which would be of enormous use to women after the war in helping them to earn skilled workers' wages instead of being merely condemned to low forms of repetition work. How far the men's trades would allow the principle of dilution to be carried on after the war was one of the problems of reconstruction in 1918. It was in the main felt to be one for the women's trades unions, which had grown from 350,000 in 1914 to 750,000 in 1918. They marked time jealously while awaiting a great alteration in the women's position. An incident during this marking time was the award of the gold badge of the Women's Trade Union League in September, 1918, to Mrs. Fountain (Vehicle Workers' Union) for her work during the 'bus girls' strike, which secured them equal pay for equal work.

The Government in the autumn of 1918 appointed a commission, under the chairmanship of Judge Atkin, to enquire into the question of equal pay for equal work and to secure an equitable basis for the future relations of men and women in industry. Interesting evidence was given on this subject by the women's trade unions and other organizations. The great difficulty was found in the fact that for work which was almost the same there was often an immense difference in the remuneration. Among the causes for the lower pay in nearly all the occupations in which both the sexes worked were said to be "legal disabilities affecting the employment of women; customary disabilities; educational disabilities; social disabilities; marriage mortality; and the fact that the majority of men either supported or expected to support families at some period of their lives."

Women's work had in 1918 become so

important and so noteworthy that it was officially decided to put it on record for future generations of women to learn what had been done by women and girls during the Great War. These records and archives were collected and preserved by the Women's Section of the Imperial War Museum. The committee consisted of Hon. Lady Norman, C.B.E. (Chairman), Miss Monkhouse, M.B.E. (Chief Dilution Officer, Ministry of Munitions), Lady Askwith, C.B.E., Mrs. Carey Evans (*née* Lloyd George), Miss Durham, C.B.E. (Ministry of Labour, Chief Woman Inspector), Hon. Lady Haig, Lady Mond, and Miss Conway, M.B.E. (Hon. Secretary).

The archives included filed press notices and as far as possible personal records of women's work in every phase of the war, both industrial and quasi-military. The original medals conferred on many women by our Allies and by the War Office were presented by relatives of women who had lost their lives. The Roll of Honour of the nursing and other State services and of women in independent organizations and munition factories was very carefully kept. Some of the most interesting records were preserved in models of living women engaged in war work; those made by a factory inspector, of women in men's workshops who came directly under her notice being of possible historic interest for the future.

In spite of many unflattering comments the institution of the Order of the British Empire marked a further step in the march of women towards equality of recognition. Each class of the Order was thrown open equally to men and women, and though in a number of cases the reason of the bestowal of the honour was not immediately obvious, in the majority of instances it marked appreciation of hard work undertaken and carried through without slackening. In more than one instance of its bestowal there was a self-conquest that had something brave in it, for it was often harder for a woman unused to it to stick to an office desk at a time of feverish excitement than to indulge in some of the normal forms of war work. One recipient of an honour had been an artist's model before the war and by sheer perseverance won her way to a high and honourable place in an important Government Department.

The bestowal of the Medal of the British Empire on munition workers produced a civilian

FOOD-CARD INDEXING AT THE IMPERIAL INSTITUTE.

roll of honour in British danger zones. The dangers of the factory where poison gases are made and explosives created, often with the loss of a limb to the brave man or woman who discovers it, were, until the first list appeared, not sufficiently known in comfortable homes.

It is impossible to trace all the women who obtained home and foreign decorations since the beginning of the War. Many of those who had obtained foreign orders did not apply for a royal warrant to wear them, for which a stamp of 10s. is required. The royal warrant is only necessary in the case of orders of chivalry and is not necessary for military medals or the like conferred by Foreign Powers, and consequently the latter, which were more interesting, were not gazetted. For instance, one found in the *Gazette* mention of a Legion of Honour with Croix de Guerre having been conferred on a woman. The Legion of Honour is an order of chivalry and the Croix de Guerre is not, and if the latter only had been conferred, it would not have been gazetted. Through the medium of the Women's Section of the Imperial War Museum it was hoped that these distinctions, all of them well-earned, would be duly recorded with the deeds that win them. Their roll of honour of women who lost their lives in the war, military nurses, V.A.D., ambulance drivers, members of Q.M.A.A.C. and munition makers number over 500 in 1918.

In autumn, 1918, a Good Service Ribbon was awarded to women of the Land Army for six months' service without any justified complaint against them. A bar to it was given for some service to the land such as saving a hay-rick from burning or the like, many of which have been rendered by Land Lasses at danger to themselves since they went on the land.

In May, 1917, the Representation of the People Bill was introduced into the House of Commons and the Women's Suffrage Clauses (the result of the Speaker's Conference in the autumn of 1916 which reported in January, 1917) were left open to the judgment of the House. They passed after memorable speeches by majorities of three to one. In December they passed the House of Lords and on February 6, 1918, the Representation of the People Act, giving votes to 6,000,000 women over 30 years of age, received the royal assent.

In November, 1917, the National Federation of Women Workers took a ballot of their members for affiliation with the Labour Party. The result was in favour of affiliation which gave the Federation the right to run a candidate for Parliament. Following this, Miss Mary Macarthur, honorary secretary of the Federation was adopted as prospective candidate for Stourbridge by the local Labour Party on March 11, 1918. Miss Macarthur was the first woman candidate to be adopted by any political party.

A very notable sign of the times was the decision of the House of Commons by 274 votes to 25 on October 23, 1918, that a Bill be passed forthwith making women eligible as members of Parliament. On the same day a resolution admitting ladies to the members' gallery was agreed to. The grille had been already removed from the ladies' gallery, but its small dimensions were obviously inadequate in view of the share which had been granted to women in politics.

END OF VOLUME SEVENTEEN.

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